

Royal Commission

on Canada's Economic Prospects

Some Regional Aspects  
of  
Canada's Economic  
Development

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ROYAL COMMISSION ON CANADA'S ECONOMIC PROSPECTS

**SOME REGIONAL ASPECTS  
OF  
CANADA'S ECONOMIC DEVELOPMENT**

*by*

R. D. HOWLAND

  
**NOVEMBER 1957**

*While authorizing the publication of  
this study, which has been prepared at  
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## PREFACE

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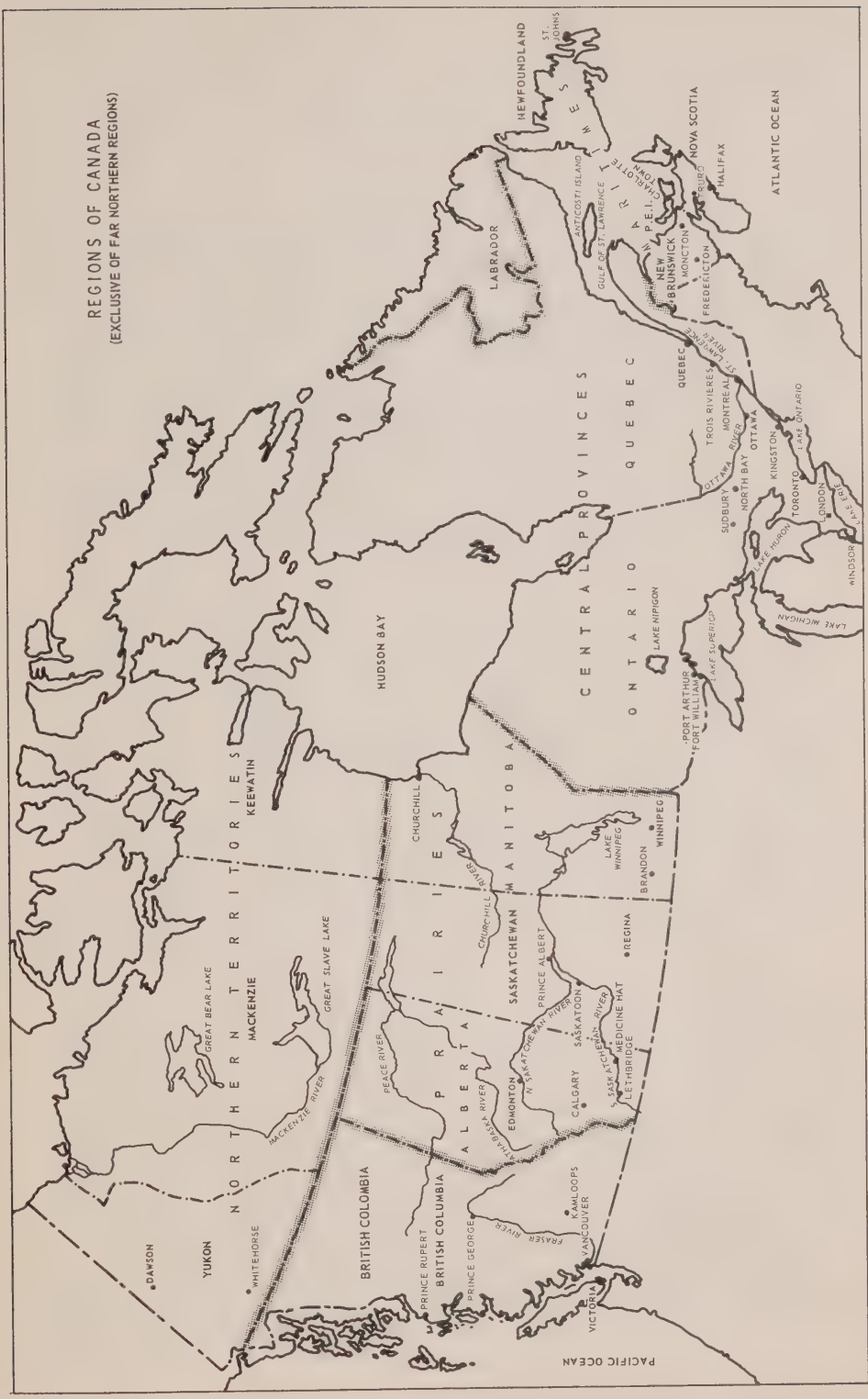
Most intimately concerned have been Mr. Robert Campbell of the Research Department of the Bank of Canada and Miss Elizabeth Brodie, a member of the Commission's staff. Mr. Campbell undertook the analysis of the disparity in personal income per capita in the Atlantic Provinces and in Ontario, and his active interest in the progress of the study has been most helpful. On Miss Brodie fell much of the responsibility for that detailed supervision of statistical procedures and data which is so integral to a study of this kind.

Many departments of the federal government gave assistance. Inevitably the Dominion Bureau of Statistics was called upon for special data, and a particular word of thanks is due to its many officers who readily responded to all requests for help. The Economics and Research Branch of the Department of Labour and the Research and Statistics Division of the Department of Health were most co-operative on the subject of population mobility. The Geographical Branch of the Department of Mines and Technical Surveys kindly drafted and supplied the maps showing Canada in 1867 and 1957.

A special word of appreciation is due to those who read the first draft and gave the criticism which is so necessary when a study is at that stage. Not all of these criticisms have been met in the final draft. One value of the study as it now appears is that it should provide some additional basic material for further development of the subject.



REGIONS OF CANADA  
(EXCLUSIVE OF FAR NORTHERN REGIONS)





## INTRODUCTION AND SUMMARY CONCLUSIONS

THIS REPORT, by reason of its title alone, would seem to call for some introductory remarks. There are, as this suggests, some deliberate limitations set on the study. The report attempts to discuss *some* regional aspects of Canada's economic development rather than the generality of the subject. The selection of the points of interest and the character of the study owe much to the circumstances under which it was prepared. Essentially the report arose from the desire of the Commission to be certain that the interests of all of the regions would be taken into account in their considerations of the future prospects of the nation and the problems associated with this development.

The report, then, is not a study of regional problems in Canada. It is an attempt to ascertain the degree to which it is reasonable to assume that the provinces or territories, in some cases grouped to form regions, can be expected to participate in Canada's general economic prospects. The report reflects the fact that the division of Canada into regions is a basic factor in the political and economic life of the country. It is not a matter of choice but a basic reality of the economy. If it can be said that Canada represents a political triumph over geography, that victory has not eliminated geography in any economic sense. Regionalism is in fact a built-in feature of the Canadian economy; a phenomenon which stems even from the constitution of the country, which is, in itself, sensitive to regional interests and special characteristics.

In the light of these circumstances it is not to be expected that the emphasis of the report will be on any projections into the future. Perhaps this is regrettable, as there are some technical developments which can be expected to affect deeply some regional aspects of Canada's economic development. The most challenging of these is the implication of future forms of air transportation. Geographic isolation will be progressively hard to accept as a necessary attribute of any region of Canada. The lessening of distance, at least as this is measured by time, can be expected to unify the nation further and to strengthen its economic foundations. Essentially, the report examines the trends of economic development in the different regions and attempts to assess the likely projection of these trends in the light of past performance and the findings of the Commission regarding the economic future of Canada as a whole.

This background is also important in determining the definition of regions for the purposes of this report. Considerable difficulty can be encountered in defining an economic region. The literature on economic regions is becoming quite extensive, and it is now recognized that the subject is highly complex. One basic factor in any definition of a region, where policy considerations are germane to the study, is that the area, either by itself or in combination with other areas, must be able to take political action on its own behalf. This is probably the overriding factor in the choice of regions in the present study. It is, moreover, consistent with the general purpose of the study. It would be quite possible, of course, to select areas in Canada which are facing, or may be expected to face, special problems or unique experiences. On this basis the area extending from Windsor to Quebec City, the industrial axis of Canada, might be selected. This area, which has no political boundary, faces many common problems. Its interests are tied up with secondary manufacturing and the welfare of the Canadian domestic market. In most of the area, investment of social capital has lagged, and the problems of economic growth in terms of vast expenditures of social capital are shared in common. Alternatively, one thinks of the area of Canada bordering the Atlantic Ocean which includes parts of Quebec and probably excludes the Labrador coast of Newfoundland, where the area as a whole appears to have been starved economically in contrast to the somewhat surfeited area of the industrial axis. Again, there are the problems of the new frontier areas of Canada — the North. This frontier does not consist of the Yukon and the Northwest Territories, but connotes an area extending across the northern sections of the provinces from the Labrador coast of Newfoundland to northern British Columbia and north to the Barrens of the Far North.

It is more practical, however, in the light of the Canadian Constitution, under which the provincial governments have substantial responsibilities in economic development, and in view of the purposes of this Commission, that the definition of regions should conform to the realities of political action. In this study, therefore, regions are taken either to be individual provinces or a grouping of provinces. The one exception to this is the treatment of the North as one region. The North is taken to include the two federal territories — the Yukon and the Northwest Territories. In the other groupings, the Atlantic Region is taken to include Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick. On certain occasions, notably in the historic treatment of regional developments, the term "Maritime Provinces" is employed. This refers to Nova Scotia, Prince Edward Island and New Brunswick only. The Prairie Region includes Manitoba, Saskatchewan and Alberta. Apart from the North, therefore, there are five regions: the Atlantic Provinces, Quebec, Ontario, the Prairie Provinces, and British Columbia.

It will be noted that there is little reference to the North until the final chapter of the report. Such special treatment is almost inevitable at the

present stage of development of these territories. The more detailed attention given to the Atlantic Region, on the other hand, arose out of an early recognition that the economic dilemma of these provinces required special analysis.

The general procedure adopted for the purpose of assessing the relative position of the different regions is fairly clear from the outline of the report as contained in the table of contents. Some suggestion of the present relative level of economic activity and achievement in the different regions can be gleaned from the analysis appearing in Chapter 1. It is perhaps pertinent to point out that some of the statistics employed for this analysis are available for the first time and that their manner of use represents somewhat of a departure from normal practice — a departure which, it is felt, contributes to a more realistic appreciation of the essential economic features of Canada's regions. This procedure is important also in the analysis in Chapter 2 covering economic growth in the regions. In this instance, the purpose of the analysis is to gain a sense of the direction of regional development in Canada and an appreciation of the momentum of economic growth in the different regions. The statistical approach is helpful in an interpretation of the former subject, for it clarifies the very strong pattern underlying regional development in Canada. Against this background, an attempt is made to assess the relative prospects of the regions. In Chapter 3 several yardsticks are applied for this purpose. Investment figures, for example, are examined to ascertain the relative attraction of the regions for capital. Similarly, statistical data are sifted to determine the strength of the regions in their attraction of labour. These, it will be recognized, are the mobile factors of economic production, and their pattern of selection over the past could be expected to have some bearing on the future prospects of economic growth in the different regions. The regional implications of the various special studies carried out for the Commission and, in particular, of those covering the resource industries obviously prove a most important aid for the assessment, which indicates also the likely pattern of population distribution in Canada and the areas of policy which will affect regional rates of growth.

The general conclusion of the analysis is that any prosperity which can be forecast for Canada is likely to be widespread. In other words, no one region appears to have any special preserve in regard to favourable prospects of future economic development. Optimum conditions for population growth, without any infringement on income per capita, appear to lie in British Columbia and Ontario. On the other hand, relatively minor changes in circumstances, including, in the instance of the Prairie Provinces, a modification of transportation factors, would make it extremely difficult to differentiate between the relative prospects of any of the regions, with the possible exception of the North (the Yukon and Northwest Territories) and the Atlantic Provinces. The evidence suggests that much greater caution

is required in attributing to these regions a similar rate of economic growth, and that the pace of economic development will likely be less rapid there than elsewhere unless special measures of a far-reaching nature are implemented. This does not imply that progress will be automatic in the regions other than the North and the Atlantic Provinces.

On the contrary the evidence suggests that the problems of prosperity and rapid expansion can present difficulties of the first magnitude. It is quite evident that industrial enterprise will remain at a premium and that very real co-operative efforts will be required from all levels of government if the regions are to realize their fullest economic potential. Financial problems such as those involved in existing dominion-provincial financial arrangements must be expected to have a continuing importance. In meeting these financial problems and the special capital assistance required to foster regional developments beyond the financial strength of the regional authorities, the federal government will face a continuing problem of allocating financial resources among the large categories of special expenditures, defence, social security and resource development. Transportation questions are also likely to loom large. The industry is of vital significance in Canada, and its progress will involve difficult questions as well as new economic development as railway rate charges are adjusted to meet these conditions of transition.

### *The North*

The essential problem regarding the future development of the North, taken here by definition to cover the Yukon and Northwest Territories, is that the prospects of immediate economic expansion in the normal course of events are not favourable. For the next decade or so, the North as an economic frontier will correspond more closely to the northern hinterlands of the provinces, reaching from the Labrador coast of Newfoundland to British Columbia, rather than to the Yukon and Northwest Territories. The general studies of the Commission indicated that market demand, rather than any scarcity of materials, will tend to set the limits of Canada's economic development over the next 25 years. Because the limitation will tend to be in the market, there seems to be little reason to believe that there will be any great economic pressure to open more new areas in the Yukon and Northwest Territories. The general pattern, unless special measures are adopted, will be a persistent reaching north towards these territories as unique or especially rich mineral resources are discovered or other resource industries are developed. In other words, there will be a northern movement of the economic frontiers rather than a leapfrogging to the Far North by reason of urgent demand for products from the natural resources of the Yukon and the Northwest Territories.

It will be recalled that the Prairie Provinces were settled partly by the deliberate policy of pre-emptive economic development. Transportation

was provided and the land settled largely because of fear of the expansionist tendencies prevailing in the United States at that time. Undoubtedly, defence spending will continue to have considerable influence on the economic development of the Yukon and Northwest Territories, particularly as considerable attention is now given to these expenditures so that the maximum economic development arising from defence spending will, in fact, be achieved. However, in the vastly different circumstances of defence under today's and tomorrow's conditions, it is difficult to see any close analogy between the deliberate opening up of the West for defence purposes in the past and a similar pressure for the economic development of the North.

Such an assessment of the prospects of economic development points up the seriousness of the administrative problems as these relate to the welfare of the indigenous populations of the Yukon and Northwest Territories. Circumstances have combined to curtail the traditional means of livelihood of the Indian and Eskimo people of these territories. New forms of economic activity have only partially filled the vacuum and are not likely to develop to the necessary degree in the normal course of events. The resources of the area, even on the basis of current knowledge, are capable of supporting considerable industrial activity under more favourable transportation conditions. The assessment of any measures designed to induce economic development in these territories is complicated by the effect such aids might have in the established economies of the other regions of Canada. In other words, special aids put into effect to assist these areas might well adversely affect the welfare of industries already functioning in the more established areas of Canada.

### *The Atlantic Provinces*

The record clearly indicates that the Atlantic Provinces have lagged seriously in economic development. As a result, personal income per capita in the region is considerably below the Canadian average, and welfare is also significantly lower for a large number of people. This income gap has persisted for several decades. Any comfort from the fact that the gap has not widened despite the fast pace of economic development in Canada in recent years is largely offset by further analysis. On the basis of earned income, the gap has widened and would have widened further if it had not been for a heavy incidence of government investment, with considerable military overtones, in recent economic expansion in the area. The prospects of further growth under existing conditions appear distinctly more limited in this region than elsewhere in Canada and can be expected to involve considerable re-allocation of the regional labour force.

The more detailed analysis of the problem appearing in Chapter 4 points up one of the most striking of the regional economy, namely the disproportionately large number of people engaged in marginal or submar-

ginal activities in these provinces. The low productivity of those engaged in these sections of the farming, fishing and logging industries of the region seriously affects the level of economic performance in these provinces and is highly contributory to the low regional average of personal income.

To a very large degree this phenomenon is the symptom of more basic problems. Technological, economic and other factors, in which must be included the introduction of a protective tariff policy and some aspects of transportation policy, proved less conducive to economic expansion in the Atlantic Provinces than elsewhere in Canada. Conversely, these factors tended to favour the more richly endowed areas. The high incidence of these marginal activities in the Atlantic Provinces reflects the slow rate of investment which, while measurable only for a brief period covering recent years, has undoubtedly extended over many decades. They reflect an adjustment to continued economic stagnation and the inevitable rise of poverty under these circumstances so that there is a continued and self-perpetuating misuse of man-power and land. Transportation and other aids, however extensive, have not been adequate to counteract factors leading to the separation of the region from its traditional markets and a continuing process of economic isolation.

The pattern of regional economic growth in Canada also directs attention to the resource industries of the Atlantic Provinces, for these industries under existing circumstances must be expected to be the effective dynamic factor of growth in the outlying regions. Closely associated with such industries would be the ports and other transportation facilities of the Atlantic Region, for these are intimately related to the future progress of Canada's import and export trade.

The persistence of the problem and the strength of the pattern of regional economic development suggest that the problem is deep-rooted and that no serious change can be anticipated without the adoption of substantial, imaginative and bold measures. The detailed analysis also indicates that a simultaneous, co-ordinated approach to the various aspects of the problem is essential to any successful endeavour. There are indications that the industrial pattern of the region could be strengthened notably, as judged from recent experience, by a wider use of the full market potential of military activities in the area. And recent changes in transportation charges will undoubtedly stimulate other manufacturing activity. There is, however, a very close relationship between the various industries of these provinces. Adversity in any one of them quickly affects the level of activity in others. Consequently, any limited approach may well be defeated.

The long-term and ultimately effective solution of the problem must be expected to come from further resource development. The core of the problem is the creation of conditions which will attract capital into such development. It is thus important to relate improvements in trans-

portation or other public services, such as power, to this purpose. It has been recognized, for example, that the transportation problem of the region includes the provision of more adequate facilities of all forms of transportation. The adequacy of these facilities and of the charges made for the services rendered with or without government aid, must be measured, according to this approach, by reference to specific movements of the products of the region to specified markets. The aids given would thus be directed to improving the comparative advantage of the region in respect of its particular resources.

The financial position of the governments of the Atlantic Provinces precludes any serious consideration of their capacity to undertake the heavy investments which must be contemplated in carrying out the necessary resource explorations and providing the additional services on a scale or at a cost sufficient to prove effective in overcoming the backlog of the past and inducing a healthy level of capital investment and economic expansion. It is probable, in fact, that many of these expenditures, to achieve any such result, will have to be made on an investment basis, the sums invested being treated as equity capital. Alternatively, the rapidity of any amortization of these expenditures will have to be related to what the traffic can bear rather than to the more conventional commercial practice of recovery over a relatively short period of time. The St. Lawrence Seaway may prove to be an appropriate analogy.

The treatment of the Atlantic Provinces, it will be noted, proceeds on the basis that the tariff structure in Canada, which undoubtedly impinged on the resources of the Atlantic Region in an exceptional way, has in the course of things since 1879, become an integral part of the Canadian economy. It will be recalled that the Commission, in its *Preliminary Report*, found it difficult to contemplate any radical change in the tariff structure.

Few more impressive facts emerge from the study than the general conformity in the different regions over the past 30 years to changes in personal income per capita. Over the years the few scattered and relatively weak communities of 1867 have achieved their purpose and, having consolidated a vast territorial expansion, have established an economic unit which exhibits a remarkable uniformity of regional economic reaction to national and international phenomena. Any outstanding regional problems must, therefore, appear of very small proportions in the light of such an achievement and the financial strength of the nation today.

It will be noted that the report does not attempt to measure the arguments for or against rendering special assistance to the Atlantic or any other region. In regard to the former area there appears to be general agreement regarding the desirability of a special approach to its problems, and interest is therefore centred on the most effective method of rendering assistance. In one way, however, the analysis does, by implication, bear on the question. It shows,

for example, that the nation, on a minimum basis, loses approximately 100,000 man-years of production each year by using man-power less adequately in the Atlantic Provinces than elsewhere in Canada. If computed on the basis of the average net value of production per worker in the Atlantic Provinces in 1951, the year on which these figures were based, the loss would amount to nearly \$300 million. If computed on the basis of income earned per worker in these provinces in that year, the figure would be approximately \$200 million. These figures indicate that any successful approach to the economic problems of the region would make a significant contribution to national income. Again, the figures form an important background in any consideration of the relative merits of federal investment in the Atlantic Provinces.

### *Some Qualifications*

There are a number of problems which automatically arise from the definitions and techniques adopted for the purposes of this study. For example, the grouping of the Atlantic and Prairie Provinces tends to hide significant features of the individual provinces of these regions; and the use of average figures covering the regions may even distort the picture in certain instances. The contrasts between such provinces as Newfoundland and Prince Edward Island in some subjects are so great as to make it difficult to combine realities and a regional treatment of their individual provincial problems. Wherever possible, the statistics for the individual provinces of the Atlantic and Prairie Regions are given. The treatment of the trends in these regions almost of necessity remains somewhat cumbersome when it is necessary to deal with the provincial deviations from the norm of these regions.

The use of aggregate figures, even on a provincial basis, can lead to serious distortions. No province is without its local problems, but the aggregate figures tend either to hide or to exaggerate these. The wealthiest provinces thus tend to appear to be free from pockets of low-income activities and sub-standard conditions of living, whereas the average figures of the low-income provinces tend to hide the prosperity or high productivity obtaining within these areas.

Again there is a tendency to distortion in assessing the growth and prospects of the regions in juxtaposition to each other. Those areas which have progressed well and in which prospects are above normal, tend to receive restricted notice. They have, as it were, passed muster. The tendency might be to interpret this as a lack of attention to their interests. Again the comparisons tend to understate the strength of the less prosperous areas. The Atlantic Provinces relative to Ontario or British Columbia, for example, appear in much the same light as the Dutch Empire in relation to the British Empire at one stage of history. It was customary to refer to the decline of the Dutch Empire, whereas, in fact, its growth was overshadowed by the

growth of the British Empire. It is a feature of the evidence placed by the provincial authorities before this Commission that there is a distinct sense of the future in all the regions.

There is a further procedure used in the report to which reference should be made. This applies to the use of statistics in the report. At intervals, a much greater degree of accuracy may appear to be attributed to the figures than is either warranted or necessary. The alternative of an extensive rounding of figures, however, appeared even less desirable. It will be noted, however, that the figures are seldom, if ever, pressed into service for interpretative purposes unless the margins are such as to allow for a considerable degree of error.

Finally it might be noted that the study does not include an examination of regionalism in other industrial countries nor of the progress of interregional trade in Canada. It is important to realize that Canada is not alone in having areas where economic growth has tended to lag. The United Kingdom, Australia and the United States, among other nations, have all experienced persistent regional problems of national development.

No serious study can be carried out on interprovincial trade under present conditions, for the statistical data are not available. There is evidence, however, to show that there have been a few infringements on the free flow of commodities among the regions, notably in the instance of the liquor trade and in agricultural products. The serious consequences of any significant interruption in the unrestricted interregional movement of trade in Canada must be readily apparent to those familiar with the problems of European countries now seeking to restore such trade relations.



## THE REGIONS IN PERSPECTIVE

### *Area and Population*

The five regions into which Canada is traditionally divided, the Atlantic Provinces, Quebec, Ontario, the Prairie Provinces and British Columbia, cover only some 60% of the total area of Canada. The remaining 40% of the land area of Canada comprises the Yukon and Northwest Territories. However, fewer than 30,000 people live in the vast northern area covered by these federal territories.

On a territorial basis, the Prairie Region which includes the Provinces of Alberta, Saskatchewan and Manitoba, is the largest of the traditional regions. It covers an area of some 753,000 square miles, of which some 688,000 square miles are classified as "land" area. The Province of Quebec is the next largest region, followed by Ontario, British Columbia and the Atlantic Provinces. Some particulars of the size of the various provinces, the regions they comprise and their populations, appear in Table 1.

It will be noted that in terms of size of population, in contrast to area dimension, the Province of Ontario leads the other regions. In 1955, 33.2% of the population resided in Ontario. The Province of Quebec followed closely with 29% of the total. The Prairie Provinces, with approximately 18% of the total Canadian population in 1955, compared with the Atlantic Provinces with 11.3% of the total and British Columbia with 8.4% of the total.

Until Newfoundland entered Confederation in 1949, the eastern region was the most densely populated area of Canada; and the Maritime Provinces, as a region, in 1955 still held that position with 27 persons per square mile. On an Atlantic Provinces basis, however, the regional figure is reduced to 9 persons per square mile; and Ontario, with 16 persons per square mile, showed the highest population density of any of the regions. Population density in the Province of Quebec is similar to that of the Atlantic Provinces. The Prairie Region and British Columbia are less heavily populated in

relation to land area, both regions averaging some four persons per square mile.

Table 1

# LAND AREA AND POPULATION BY PROVINCES AND REGIONS 1955

Region, province or territory	Land area			Population		Popu- lation per sq. mile of land
	Total area sq. miles	Land area sq. miles	Land area % total	Total (thou- sands)	% Canada	
ATLANTIC						
PROVINCES.....	<b>206,601</b>	<b>198,394</b>	<b>5.6</b>	<b>1,761</b>	<b>11.3</b>	<b>9</b>
Newfoundland.....	155,364	147,994	4.2	412	2.6	3
Prince Edward Island...	2,184	2,184	—	108	0.7	49
Nova Scotia.....	21,068	20,743	0.6	683	4.4	33
New Brunswick.....	27,985	27,473	0.8	558	3.6	20
QUEBEC.....	<b>594,860</b>	<b>523,860</b>	<b>14.7</b>	<b>4,520</b>	<b>29.0</b>	<b>9</b>
ONTARIO.....	<b>412,582</b>	<b>333,835</b>	<b>9.4</b>	<b>5,183</b>	<b>33.2</b>	<b>16</b>
PRAIRIE						
PROVINCES.....	<b>753,497</b>	<b>688,705</b>	<b>19.3</b>	<b>2,804</b>	<b>18.0</b>	<b>4</b>
Manitoba.....	246,512	219,723	6.2	849	5.5	4
Saskatchewan.....	251,700	220,182	6.2	889	5.7	4
Alberta.....	255,285	248,800	7.0	1,066	6.8	4
BRITISH COLUMBIA	<b>366,255</b>	<b>359,279</b>	<b>10.1</b>	<b>1,305</b>	<b>8.4</b>	<b>4</b>
Yukon & North- west Territories.....	1,511,979	1,458,784	40.9	27	0.1	—
CANADA.....	<b>3,845,774</b>	<b>3,562,857</b>	<b>100.0</b>	<b>15,600</b>	<b>100.0</b>	<b>4</b>

SOURCES: Calculated from the *Canada Year Book* and *Population of Canada by Provinces, 1921-1955*, Dominion Bureau of Statistics.

It is a further characteristic of Canada that the population is also concentrated in limited areas within the regions. This reflects to some extent a concentration in urban areas. According to the 1951 Census, over 70% of the people in Ontario live in urban centres, 45.1% in towns having a population of 30,000 or over. This position is followed closely by British Columbia, where urban population was 68.1%, and Quebec, where it was 66.5% of total population. The population of the Prairie and Atlantic Regions is less concentrated in urban centres, although the comparable figure is still some 45%. The concentration of population within the regions, however, is more significantly related to the functional features of the area. With the exception of the three Maritime Provinces, the regions include vast hinterlands to the north and, in general, cultural conditions in these sections of the provinces reflect a pioneering stage of development. Climatic,

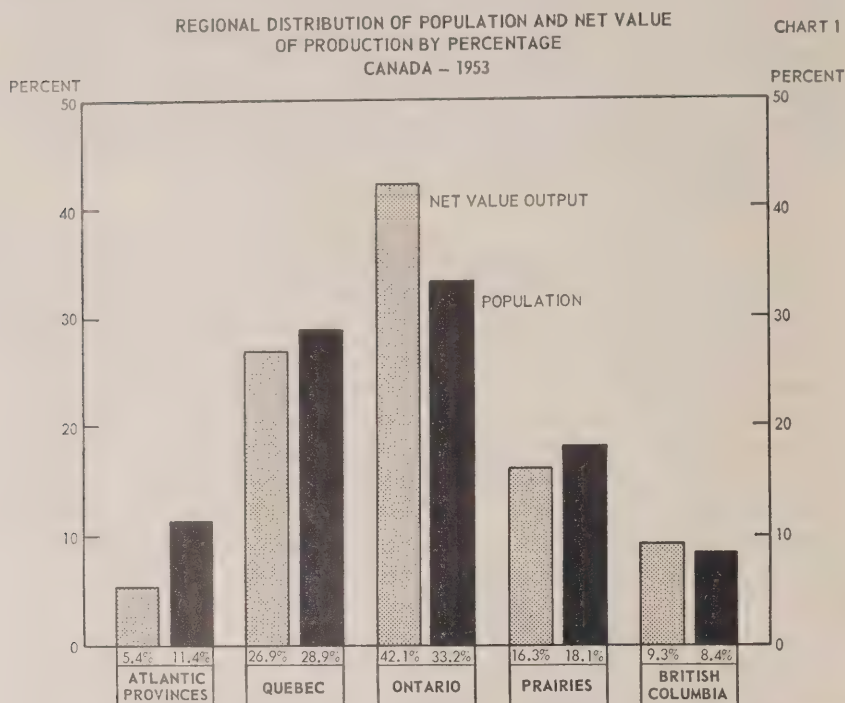
physiographic and other natural conditions, as well as cultural factors, have tended to concentrate development of economic activity and the settlement of people in the more southerly areas of the regions. Thus, some 75% of the population live within 200 miles of the southerly boundary of Canada. Again, it is well known that a very high percentage of the population of Ontario and of Quebec reside in the relatively small triangular area formed by a line running from Quebec City to Windsor, Ontario, and thence back through the Ottawa Valley. Again, within the Province of British Columbia there is a very large concentration of the regional population in the coastal areas, notably in the environs of the city of Vancouver.

### *Net Value of Production*

Just as there are large differences in the size of the various regions and the proportion of the total Canadian population which they represent, so there are wide variations in economic activity. The significance of these variations is most apparent when a number of adjustments are made to the net-value-of-production series of figures which are generally employed in describing the incidence of commodity production in the various regions of Canada. These adjustments essentially consist in amalgamating the primary processing of raw materials with the preliminary resource activities — fish-processing with fish-catching operations, saw milling and pulp and paper manufacture with logging, for example — and referring to the statistically combined operations as the resource industries. Individually these are then referred to as the forest products industry, mining and mineral-processing, the agricultural products industry and the fisheries products industry. Manufacturing thus becomes restricted to what is termed secondary manufacturing and is taken to include industries which undertake a higher degree of processing, which produce more end products than industrial materials and which normally produce for the Canadian domestic market. Conversely, the primary manufacturing operations which are here amalgamated with the preliminary resource activities include generally the processing of raw materials in which the value added by manufacturing is relatively low or those capital-intensive operations which produce industrial materials from our resource industries mainly for sale in export markets. In practice there tends to be a close relationship, often structural in nature, between these primary manufacturing activities and the earlier stage of raw-material production. Very considerable importance is attached to this procedure in this study. The realignment of the statistics effects considerable changes in perspective on regional economic activity. This is most apparent if the descriptive data which appear in succeeding pages are compared with more traditional statistical presentations. Again, this realignment adds considerably to an understanding of the general pattern of economic growth in the regions, a subject which is discussed in Chapter 2.

One feature of the net-value-of-production figures, even before adjustment, is their indication that Ontario and British Columbia, notably the

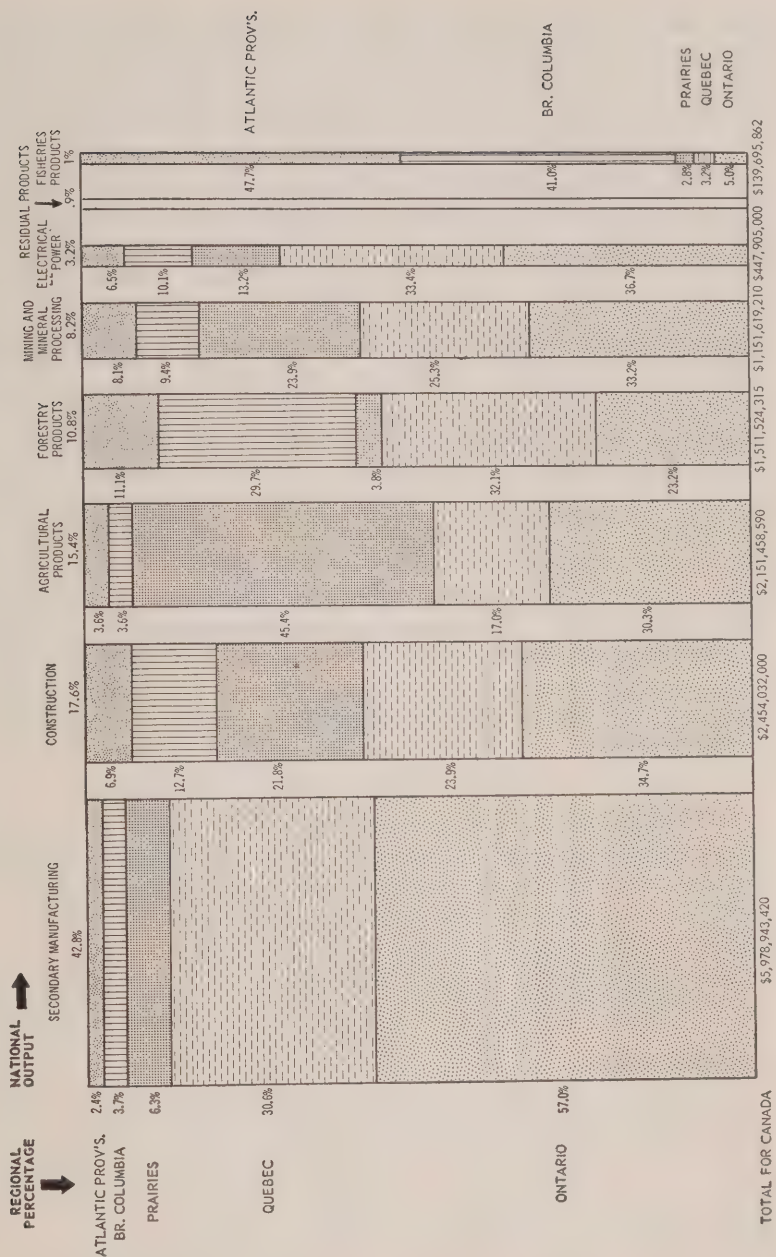
former, account for a relatively high proportion of the national total of commodity production. This is apparent in Chart I, which relates regional population and regional participation in the national output of commodities.



The effect of realigning the statistics is apparent, however, in the breakdown of these net-value-of-production figures showing the regional percentage of national production covering different commodities. The effect is to accent regional distinctions. The very heavy concentration of secondary manufacturing in the central provinces — Ontario and Quebec — thus becomes readily apparent. As will be seen from Chart II, over 87% of the net value of production in secondary manufacturing occurred, in 1953, in these two provinces, Ontario accounting for some 57% of the total and Quebec for just over 30%. On a regional basis the Prairie Provinces were the next most active in secondary manufacturing, producing in 1953 about 6½% of the national output. British Columbia followed with nearly 4%, while the Atlantic Provinces contributed some 2½% of the total. No single province, other than Ontario and Quebec, produced as much as 4% of the national output. The contribution of the central provinces to the national output of Canada's resource industries, however, was limited in 1953 to about 43% of total production, and the figures show a considerable diversity in regional activity in these industries.

CHART 2

## REGIONAL SOURCES OF CANADA'S TOTAL NET VALUE OF OUTPUT OF COMMODITY PRODUCTION - 1953



It is clear that there is a general participation by all regions in Canada's forest products industry. The Province of Quebec, with approximately 32% of the Canadian total net value of production of forest products, in 1953 led the regions in the production of wealth from the forests. The Province of British Columbia followed Quebec with just under 30% of the

total, while Ontario ranked third with some 23% of the total. These three regions thus contributed some 85% of the total Canadian net value of forest products. The Atlantic Region was the next most important contributor with just over 11% of the total, while the Prairie Provinces produced somewhat less than 4% of the national output.

The Prairie Region, on the other hand, was pre-eminent in the output of agricultural products. The three Prairie Provinces in 1953 produced over 45% of total Canadian net value output of agricultural products. The Province of Ontario followed with some 30% of the total, while Quebec accounted for a further 17%. British Columbia and the Atlantic Region, each with approximately 3.5% of the national total, trailed far behind the other regions. It should be observed that there are distinctive features in the three Prairie Provinces. Of the three, Saskatchewan made the biggest contribution to the national output, with nearly 23% of the total net value of the agricultural products industry. Saskatchewan was followed by Alberta, with approximately 15.5% of the total, and Manitoba, with 7% of the national total. On a provincial basis, in 1953, Ontario outranked all other provinces with some 30.5% of the total output of the Canadian agricultural products industry. This reflects in part a greater intensity of processing the products of the farm, for Saskatchewan in 1953 led Ontario if primary processing is excluded and agriculture is measured on the basis of primary farm activities only. On this basis Saskatchewan contributed 27.5% of the total of Canadian net value output as compared with Ontario's 25.5%. On this basis again, the Prairie Region's contribution to the national total in 1953 rises from some 45% to approximately 52% of the total.

In 1953 one-third of the Canadian total net value of production from mining and the processing of the products of the mines was produced in Ontario. The Province of Quebec ranked second in this form of activity in 1953, and produced in that year some 25% of the Canadian total. The Prairie Provinces followed Quebec with 24% of the Canadian total. This position largely reflects the great contribution of Alberta to the regional and national total arising out of the provincial production of mineral fuels, oil, gas and coal. As a province, Alberta alone ranks third, after Ontario and Quebec, as the base of the mining and mineral products industry of Canada. The Atlantic Provinces and British Columbia accounted for a considerably smaller proportion of the total. Some 9.5% of the Canadian total arose from production activities in British Columbia, while the Atlantic Region contributed some 8%. As in the instance of the Prairie Provinces, there are important distinctions within the Atlantic Region. In 1953, Nova Scotia was the largest contributor to the Atlantic regional total. Nova Scotia produced about 5.5% of the Canadian total, compared with just under 2% for Newfoundland and less than 1% for New Brunswick.

As might be expected, the figures show a relatively small participation of the central provinces and the Prairie Provinces in Canadian fisheries production. In 1953 Ontario and Quebec combined produced less than

8.5% of Canadian total net value of production, with about 5% and 3.5% of the total respectively. Similarly, the Prairies in 1953 produced less than 3% of the Canadian total. The outstanding contributors to the national total are the Atlantic Provinces, with nearly 48% of the Canadian net value of production, and British Columbia, with 41% of the total. Within the Atlantic Region, the value of production was highest in Nova Scotia, which accounted for more than 24% of the national total, followed by Newfoundland with some 12%, New Brunswick with some 8.5% and Prince Edward Island with nearly 3% of the total.

The net value of electric power generated per capita was higher in Quebec, Ontario and British Columbia in 1953 than in the Atlantic and Prairie Regions. Quebec on this basis held a strong lead over all the other provinces or regions. British Columbia since 1953 has strengthened its relative position. It will be seen from the figures in Table 2 that the regions which have a high per capita production of power owe much of this to their fortunate possession of favourable hydro-electric power resources.

Table 2

### ELECTRIC POWER GENERATED PER CAPITA AND PERCENTAGE GENERATED FROM HYDRO-ELECTRIC STATIONS BY REGIONS, 1953

	Kilowatt hours of electricity generated per capita	Percentage of electricity generated by hydro plants
Atlantic Provinces.....	1,222	72.5
Quebec.....	7,916	100.0
Ontario.....	3,731	99.9
Prairie Provinces.....	1,972	77.9
British Columbia.....	2,749	99.1

It should be noted that both Newfoundland and Manitoba are exceptions to the rule in their respective regions. In both these provinces power is also derived largely from water-power resources.

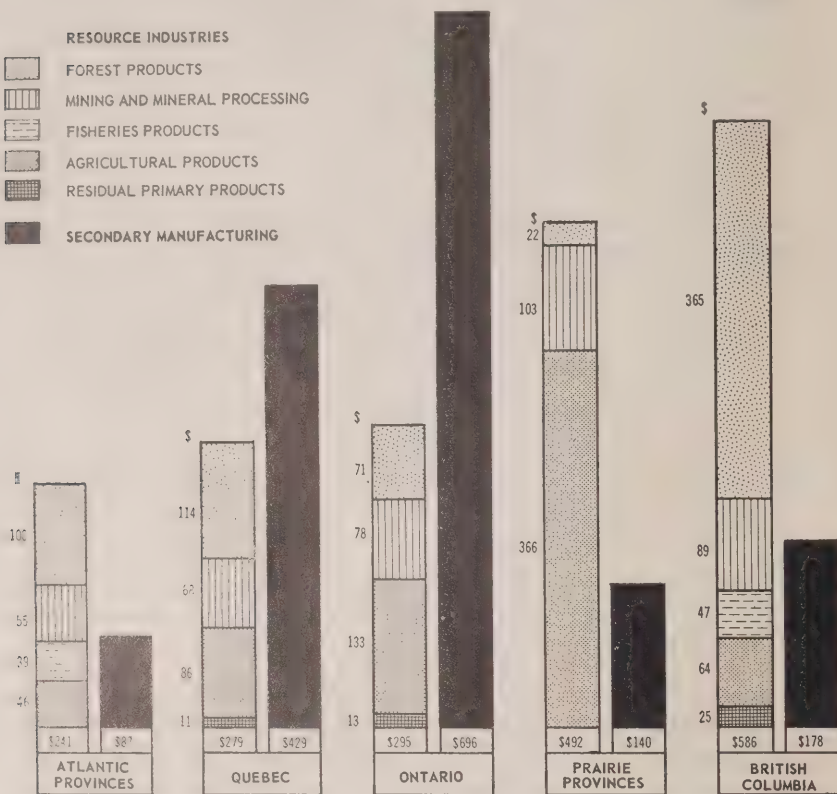
There is little merit at this time in examining further the figures relating to net value of construction activities in the regions in 1953, which appear in the foregoing chart. It is clear that in that year the output of the industry on a per capita basis was exceptionally large in Ontario, the Prairie Provinces and British Columbia, and relatively low in Quebec and the Atlantic Provinces. The figures undoubtedly reflect in part the very heavy current rate of new capital investment in 1953 in Ontario and the western regions, a subject which will be dealt with later.

It is when these net-value-of-output figures as they relate to manufacturing and the resource industries are placed on a per capita basis that their significance is most apparent. On this basis they show very distinctly the higher concentration of secondary manufacturing in the central provinces,

and in Ontario in particular. They also show the pronounced tendency for the outlying regions, British Columbia, the Prairie Provinces, and the Atlantic Provinces, to concentrate economic activity in the resource industries. In addition to pointing up regional specializations — forest products in British Columbia and agricultural products in the Prairie Region, for example — they are suggestive of the relative wealth of regional resources as these had been developed by 1953. This is most apparent in respect of British Columbia and the Prairie Provinces, where per capita output in the resource industries is outstanding.

NET VALUE OF PRODUCTION PER CAPITA IN SECONDARY MANUFACTURING  
AND THE RESOURCES INDUSTRIES BY REGIONS, 1953

CHART 3



### *Regional Perspective*

It is also instructive to look at these newly aligned net-value-of-production figures from a regional perspective. The relative importance of these various forms of commodity production tends to change when the net value of output of the different industries of the regions is related to the regional rather than the national total net value of output. Table 3 shows the net value of production of the different industries of the regions and their relative importance to total commodity production in each region.

Table 3

# NET VALUE OF PRODUCTION BY INDUSTRIES AND REGIONS AND THE PERCENTAGE OF TOTAL REGIONAL COMMODITY PRODUCTION REPRESENTED BY EACH INDUSTRY, 1953

Region	Forest products		Mining (a)		Fish products		Agricultural (b)		Secondary (c)	
	\$	%	\$	%	\$	%	\$	%	\$	%
Atlantic.....	168,503,786	22.3	93,217,738	12.4	66,581,462	8.8	77,608,370	10.3	146,958,814	19.5
Quebec.....	485,861,202	13.0	291,569,235	7.8	4,809,200	0.1	365,647,804	9.8	1,830,052,780	48.7
Ontario.....	350,079,700	6.0	382,017,257	6.5	7,027,000	0.1	652,863,492	11.1	3,409,032,456	58.0
Prairies.....	58,087,512	2.6	275,631,948	12.1	3,936,700	0.2	977,180,643	42.8	374,455,168	16.4
B.C.....	448,992,115	34.7	109,183,032	8.4	57,341,500	4.4	78,158,281	6.1	218,444,202	16.9
Canada.....	1,511,524,315	10.8	1,151,619,210	8.3	139,695,862	1.0	2,151,458,590	15.4	5,978,943,420	42.8

Region	Other primary products		Electric power		Construction		Total regional N.V.P.	
	\$	%	\$	%	\$	%	\$	%
Atlantic.....	2,296,709	0.3	29,135,000	3.9	169,730,000	22.5	754,031,879	100.0
Quebec.....	41,505,115	1.1	150,030,000	4.0	586,418,000	15.6	3,755,893,336	100.0
Ontario.....	58,152,980	1.0	164,347,000	2.8	852,710,000	14.5	5,876,229,885	100.0
Prairies.....	—	—	59,128,000	2.6	534,719,000	23.4	2,283,138,971	100.0
B.C.....	26,166,858	2.0	45,265,000	3.5	310,455,000(d)	24.0	1,294,005,988	100.0
Canada.....	128,121,662	0.9	447,905,000	3.2	2,454,032,000	17.6	13,963,300,059	100.0

(a) Mining products includes primary iron and steel for the Atlantic Region only and primary non-ferrous metal and non-metallic mineral products for the other regions.

(b) No primary agriculture figures are available for Newfoundland.

(c) Primary iron and steel is excluded from secondary manufacturing for the Atlantic Region only.

(d) Includes the Yukon and the Northwest Territories.

SOURCE: Calculated from D.B.S. bulletins on *Final Estimates of Forest Production, 1953*; *Fisheries Statistics of Canada, 1953*; *Farm Net Income, 1954*; *Central Electric Stations, 1953*; *Construction in Canada, 1953-55*; *The Primary Iron and Steel Industry, 1954*; and D.B.S. schedules on manufacturing and mining, 1953.

One important point emerges from these figures, namely, that in all regions other than Ontario and Quebec more than 50% of total commodity production stems from activity in the resource industries, the term here including primary processing as well as the more primary stages of agriculture, fishing, mining and forestry. Thus the forest, mining, fisheries and agricultural products industries in the Prairie Region accounted for 57.5% of total net value of commodity production. The comparable figure in the Atlantic Provinces is 53.8%, a figure slightly in excess of the comparable figure for British Columbia which is 53.6%. By contrast the same industries in the Province of Quebec accounted for only 30.6% of the relevant activities. In the Province of Ontario the proportion was even smaller, being some 23.6%. The obverse side of the shield is revealed in the figures for secondary manufacturing. In 1953 less than 20% of the total net value of production in the Atlantic, Prairie and British Columbia Regions accrued from this form of industrial activity. By contrast, some 58% in Ontario and well over 48% in Quebec of total provincial net value of production arose out of secondary manufacturing activity.

These factors are of basic importance in any consideration of the regional features of the Canadian economy, for, as noted previously, the essential pattern of the economy is the relative concentration of secondary manufacturing in the central provinces and a strong emphasis in the outlying, less populous regions on the resource and primary processing industries. The outlying regions rely heavily on the central provinces of Ontario and Quebec for the supply of commodities manufactured in Canada, notably those which require volume markets to ensure economic and efficient production. Closely associated with this, there has developed a strong tendency for commercial, financial, and other institutions to congregate in the central provinces. This is a most important feature of the Canadian economy and has particular bearing in regard to the prospects of future regional economic development. The emergence of this pattern has particular significance in the story of the protracted difficulties of the Maritime and Atlantic Provinces.

### *The Atlantic Region*

It clearly emerges from the foregoing statistics that the forest products industry is one of the most basic in the Atlantic Region, and it must be accounted as an important feature of the wealth of the Atlantic Region that much of the land area is covered by forests. The region has a large resource which is by nature self-replenishing rather than depletive. In the three Maritime Provinces these forests are classified, according to the official forest classification for Canada, as the Acadian Forest Region. The characteristic species of these Acadian forests are red spruce and, associated with it, balsam, fir, yellow birch and sugar maple, with some interspersions of red pine, white pine, beech and hemlock. Black and white spruces, northern

red oak, white elm, black ash, red maple, white birch, wire birch and poplars are also widely distributed in the region. Eastern white cedar and jack pine occur in the western half of the region. The forests of Newfoundland are largely restricted to trees which occur in the Boreal Region of the Canadian forests. White and black spruces are highly characteristic. In the southern areas of the island of Newfoundland, however, there is an intrusion of the tree species of the Acadian forests. In the Newfoundland-Labrador area some of the characteristics of the more northerly sections of the boreal forest areas are exhibited, and the forests are marked by fairly extensive interspersions of barren lands, a few of which occur in the island itself.



In the Atlantic Region some 50% of the net value of the forest products industry in 1953 arose from pulp and paper production. Although lumber products are important within the region, they account for less than 20% of the total net value of production of the regional industry. Lumber is relatively more important in New Brunswick and Nova Scotia, the two provinces combined accounting for the great proportion of the lumber produced in the region. The Newfoundland forest products industry is heavily concentrated in the production of pulp and paper, and although New Brunswick contributes more lumber than any other province in the region, pulp and paper production is still a relatively more important product of the New Brunswick forest. These two provinces, Newfoundland and New Brunswick, contribute the greater proportion of the forest products of the region. Production in Prince Edward Island is relatively small and is related largely to lumber production. The output of lumber exceeds in value the pulp and paper production of Nova Scotia.

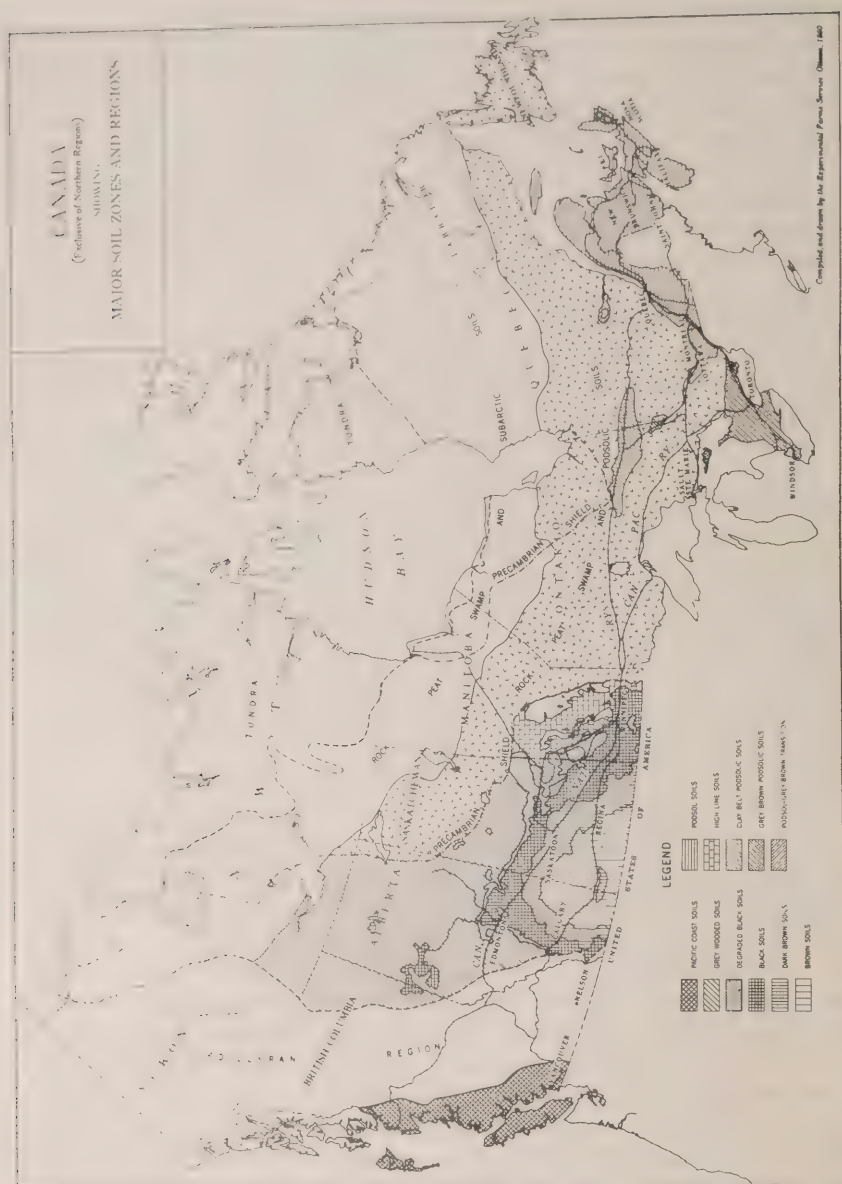
In the export trade the industry has a long tradition reaching back to early colonial days, and foreign markets remain of primary importance to it. Although the pulp and paper products of the region reach a diversity of foreign markets, the chief of these are the United States and the United Kingdom. Production from the three Maritime Provinces has been highly geared to the United States markets, whereas in Newfoundland the industry has looked traditionally to the United Kingdom market. In more recent years as much as one-third of the lumber products of the regional forests has been going to the United States, and the industry has achieved a balance of markets approximately equally divided among the regional, the United States, and the United Kingdom. Only a small proportion of the products of the regional forests reach other Canadian regional markets. It is an important feature of the Atlantic Region that basic natural conditions, high rainfall and good drainage favour fast tree growth over much of the area. Moreover, by reason of cheap water transportation, the industry has a comparative advantage in many instances in reaching its markets.

The mining and mineral processing industry ranked second only to the forest products industry in its contribution to the total of net value of production in the Atlantic Region. In 1953 it accounted for nearly 12.5% of total commodity production, as compared with the nearly 22.5% derived from the forests of the region. In that year the value of production was highly concentrated in the Province of Nova Scotia, with smaller-scale but important operations taking place in Newfoundland. There is no mining industry in Prince Edward Island, and until recently activity in New Brunswick was largely restricted to coal mining. The two most vital elements of the regional mining and mineral processing industry have been the production of coal and primary iron and steel in Nova Scotia. Iron ore and limestone production in Newfoundland was heavily geared to steel production in Nova Scotia, although iron ore has been mined from time to time for export purposes. Gypsum and salt occur widely in the region. Large-scale mining

of gypsum for export to the eastern seaboard of the United States is carried on in Nova Scotia. Smaller-scale production in New Brunswick and Newfoundland is associated with the processing of gypsum products. Salt is mined in Nova Scotia, which also mines significant quantities of barites, largely for export markets. Fluorspar is produced in Newfoundland, and in 1953 there was small-scale production of base metals and various industrial minerals in both Nova Scotia and Newfoundland. In contrast to many of the industries of the region, coal and steel production has long been identified with Canadian markets.

More recent figures indicate a growing activity in mining and mineral processing in the region, notably in New Brunswick and Newfoundland. These reflect initial developments associated with important large-scale deposits of base metals in New Brunswick and of iron ore and other minerals in Newfoundland. They also reflect a more active search for mineral wealth in the region as a whole. Geologically, the region is an extension of the Appalachian system which characterizes the eastern United States and runs up through southeastern Ontario and the Gaspé peninsula and then broadens out in the Maritime Provinces and the island of Newfoundland. The Labrador coast of Newfoundland is, of course, an extension of the Canadian Shield. Part of this, the well-known Ungava Trough, through which runs the Quebec-Newfoundland border, has already proved rich in mineral wealth. Historically, the Canadian Appalachians have progressively proved rich in copper, asbestos, lead and zinc as well as in coal, and in places they are favourable to the occurrence of oil and gas.

The agricultural products industry of the Atlantic Region, on the basis of net value of production, ranks below these two other resource industries but slightly above the fisheries products industry. The industry is of very small proportion in Newfoundland, being small in scale and confined largely to the production of dairy, vegetable and poultry products for local consumption. This reflects in part the severely limited quantities of suitable agricultural land in Newfoundland. Reference to the map showing the soil zones of Canada shows that agricultural land is a less restrictive factor in regard to the other three Atlantic Provinces. In these provinces the soils develop under forested conditions and are therefore podsollic in nature. They are generally underlain by reddish or yellowish soils, while poorly drained land depressions are often covered by peat. The natural fertility of many of the soils is only moderate, and there is a tendency to acidity and to leaching of mineral content due to relatively heavy rainfall. High yields demand the use of lime and fertilizers. Although a considerable proportion of the land is marginal from the point of view of such agricultural productivity, there are areas in the region which have had a long history of successful farming. Moderate temperatures and high rainfall make the area particularly suitable for the production of forage crops, but the regional agricultural industry has developed a number of specialized activities.



The economy of Prince Edward Island, by way of contrast to that of Newfoundland, is based essentially on the agricultural products industry. Nearly 50% of the total provincial net value of production in 1953 came from agriculture, a proportion exceeded only by Saskatchewan among all the provinces of Canada. New Brunswick, however, in 1953 made the largest

contribution to the regional total output of agricultural products and on this basis Nova Scotia was ahead of Prince Edward Island. The industry was, however, relatively less important in these two provinces, accounting for some 13.5% of net value of commodity production in New Brunswick and just over 8.5% in Nova Scotia.

As might be expected, much of the output of the regional agricultural industry is directed toward the local regional market. In addition, however, the industry has developed a number of special products including seed and table potatoes, tree fruits and small fruits, breed-stock hogs and poultry and poultry products. The industry has a long tradition of exporting its products to the United Kingdom and other foreign markets, but under more recent conditions has marketed a growing proportion of these vegetable products in central Canadian markets. The region is a net importer of agricultural products, however, as the Atlantic Provinces import, mainly from central Canada, a considerable quantity of meats and dairy products and some canned fruits and vegetables.

The Atlantic fisheries products industry ranked fourth among the resource industries in the region in 1953. It accounted for nearly 9% of total net value of production, and the industry formed a more important part of the regional economy than in any other part of Canada. Although it amounts to less than 5% of total net value of production in New Brunswick, the fisheries products industry in the other three provinces of the region — Nova Scotia, Prince Edward Island and Newfoundland — accounted for more than 10% of the provincial commodity output. The industry looms particularly large in the Prince Edward Island and Newfoundland economies. It might be noted that Nova Scotia contributes a high proportion of the regional total output. The next highest production came from Newfoundland, with approximately half the value of Nova Scotia production, and from New Brunswick, with approximately 35% of the Nova Scotia total.

The wealth of the fisheries of the region consists not only in the vast fish stocks of the so-called banks of the Atlantic continental shelf, which extends from the coasts of Nova Scotia and Newfoundland, and of the St. Lawrence River gulf and of the Bay of Fundy, but in the very considerable variety in the total fish stocks. The most important resources are the ground-fish, including cod, haddock, rose-fish and pollock, and the pelagic varieties — herring, sardines, mackerel and tuna. The occurrence of flat-fish — predominantly halibut, flounder, plaice — adds to the variety of the regional fisheries, and there is an important production of shell-fish and crustaceans, including oysters, lobsters, clams and scallops, of which lobsters are the major commercial species.

Although the four Atlantic Provinces participate in the exploitation of the ground-fish, pelagic fish and flat-fish resources of the region, the Provinces of Newfoundland and Nova Scotia, by reason of their geographic location, are in a more strategic position to exploit these resources. It is interesting to

note that, in respect of primary catching operations, the participation of Newfoundland and Nova Scotia is much more evenly divided than when the comparison is made on the basis of fisheries products. The difference reflects the fact that in Nova Scotia a higher proportion of the catch is channelled into fresh- and frozen-fish products in which the value added by processing is greater than in the case of salt-fish production. It might be noted that salt-fish production is higher in Newfoundland than it is in Nova Scotia. It is well known that the shell-fish and the crustaceans are normally high-value products. Prince Edward Island secured considerable wealth from the production of oysters and lobsters, and the relatively small physical volume of output of New Brunswick is offset by its valuable lobster fisheries. New Brunswick is also the regional centre of sardine production which is based on the occurrence of small herring in the Bay of Fundy. The lobster fisheries of Nova Scotia add greatly to the total value of the fisheries products of that province. There is a small but valuable production of inland, estuarial, and anadromous fish, of which perhaps the most notable is the Atlantic salmon. Increasingly, their occurrence has been recognized as an important adjunct of the tourist industry. A very high proportion of the fisheries production of the region is exported, the United States playing a predominant role in importing lobster and fresh- and frozen-fish products and the Caribbean and Mediterranean markets assuming a greater importance in respect of salt-fish products.

Although secondary manufacturing in the Atlantic Region forms a relatively small proportion of the national output, the figures show that it is an important activity of the region. Secondary manufacturing in 1953 amounted to some 20% of the regional total net value output of commodities. It is relatively more significant in Nova Scotia and New Brunswick.

The manufacture of foods and beverages occupies a leading role in Atlantic secondary manufacturing. This is a normal situation where manufacturing is a relatively small part of the regional economy and where secondary manufacturing is related largely to local consumption demands. The foods and beverages classification, however, includes products such as chocolates and other confectionery, which reach national markets. This activity arose in part out of an original transportation advantage of the region, associated with the importation of raw materials by water and the furtherance of manufactured articles to inland markets. Iron and steel production and the manufacture of transportation equipment are also important features of Atlantic secondary manufacturing. In practice they are often closely associated in the region as different activities of the same firm. Grouped statistically, they accounted for some 33%<sup>1</sup> of the regional total of secondary manufacturing in 1953. This emphasis on iron and steel and transportation equipment manufacturing arises from a number of factors. In the

<sup>1</sup> If primary iron and steel are excluded. If these are included, the figure would be 41.7%.

first place, primary iron and steel are produced in the region. Although Nova Scotia's iron and steel products do not proceed to the sheet or plate rolling mills of the fully integrated steel plants elsewhere in Canada, the location of these primary iron and steel operations in the region is a source of other secondary steel manufacturing, notably in respect of railway rolling stock.

Again, commerce places a demand for shipbuilding and repair, mainly the latter, in the major ports of the region — Halifax and Saint John. Defence requirements again are an important factor of these activities, and the figures reflect an active aircraft industry as well as defence requirements for steel shipbuilding and ship-repair operations. Apart from these activities, much of the manufacturing of the region is small in scale and is directed to the demands of regional consumers. They are often associated with specialized service or skills and are mostly industries in which unit costs under present conditions cannot be seriously reduced by large-scale production. There is, however, some production of textiles and leather goods, which are marketed on a national basis. Again, the smaller shipyards of the area, in addition to meeting the regional requirement for fishing and coastal vessels, are the bases used for the manufacture of wooden ships of a pleasure class. Increasingly in recent years these have reached national and international markets. These industries have a long tradition in the region, and their products go beyond it largely by reason of the established specialization in products and the availability of a select pool of workers. Although the region is strategically located to serve export markets, this factor has had little bearing on the development of its secondary manufacturing.

### *Quebec*

Measured on a net value of output basis, secondary manufacturing was by far the most important form of commodity production in the Province of Quebec in 1953. It yielded 48% of the total provincial net value of commodity output. This figure can be contrasted with some 30% yielded by the resource industries of the province. Manufacturing activity in Quebec is diversified, although somewhat less so than in Ontario. The province is pre-eminent in a number of Canada's manufacturing activities, including sections of textile manufacturing and the production of leather footwear, tobacco products, some items of electrical apparatus and railway rolling stock. In textiles, for example, Quebec is the leading Canadian source of cotton yarn and cloth and of synthetic textiles and silks. The province also tends to predominate in a large number of small specialized industries requiring a pool of suitably skilled workers. Such industries include the manufacture of candles, embroidery, pleating and hem-stitching, artificial flowers and feathers and fur goods, to name only a few specialties. Textile and clothing production in 1953 accounted for the biggest proportion of total secondary manufacturing in Quebec, amounting in that year to just under 22% of the total value of secondary manufacturing in the province. The manufacture of iron and steel products ranked second, with 13% of



the provincial total, closely followed by the manufacture of transportation equipment, with a little more than 12% of the total.

The forest products industry in 1953 held a leading position among the resource industries of Quebec, accounting in that year for some 13% of total provincial net value of commodity production. The agricultural products industry, with nearly 10% of the provincial total, was the second largest resource industry, outranking mining and mineral-processing by a small margin. The fisheries products industry in Quebec is of local rather than provincial significance when measured in terms of the dollar value of production.

Just as the strategic location of the province in relation to Canadian markets is a fundamental factor in regard to Quebec's large contribution to Canadian manufacturing activity, so the geographical and topographical factors of the region are of great importance to the resource industries. The Canadian Shield, as will be seen from the map inside the back cover, covers a large part of the province and has proved rich in mineral content here as well as elsewhere in Canada. Gold, copper, lead and zinc production has had a long tradition in Quebec. This province, in addition to producing the

major proportion of Canada's output, accounts for a very high percentage of the world production of asbestos. Recent developments in Quebec in the mining of iron ore and ilmenite, an ore of titanium, have added to the diversity and significance of the provincial mining industry. The topography of the Shield also adds wealth to the Province. A large part of the Quebec watershed, draining southward to the St. Lawrence River over an elevated rim, provides suitable sites for the generation of electric power and also facilitates the transportation of logs from the forests. The availability of cheap hydro-electricity is the source of Quebec's development of large-scale production of primary-processed aluminum, a feature of the provincial mining and mineral-processing industry. This power, of course, has been an important factor in fostering other industrial activity, including the manufacture of chemicals. It has been of considerable importance in the development of Quebec's forest products industry.

Although the province includes a treeless zone extending north of latitude 58°, most of Quebec supports tree growth. In the northerly and easterly parts the forests are mostly coniferous. It will be seen from the forest classification map of Canada that the most southerly parts of the province yield forests of the Great Lakes-St. Lawrence classification. These forests are of a mixed nature but are characterized by white and red pines, hemlock and yellow birch. Associated with these species are the sugar and red maples, red oak, basswood and largetooth aspen. These forests include tree species of higher unit value or a relatively greater percentage of high-value trees than do the Acadian forests. It is also of significance to the pattern of interregional trade in Canada that the eastern portions of Quebec forests include red spruce and other trees of the Acadian forests. Thus the Maritime forests may be seen as supplementing rather than complementing the forest resources of Quebec. Although there is a very substantial production of sawn lumber in the Province of Quebec, the output of pulp and paper is nearly four times as great in value.

Farming is carried on widely in Quebec and is the means of livelihood of many of the people of the province. Mixed farming is fairly characteristic, while dairy and livestock production is pre-eminent. There is, however, an important output of fruit, mainly apples, and of tobacco.

The main farming areas lie in the so-called St. Lawrence lowlands, a triangular section of land adjacent to the St. Lawrence River and extending in a widening point into the neighbouring Province of Ontario. The soils of these areas are of forest origin as compared with the grass lands of the wheat areas of the Prairie Provinces, but tend to be more fertile than most of the soils found in the Laurentian plateau of the farming region of Quebec. This plateau area lies farther north and extends east of the lowlands along the north shores of the St. Lawrence River. In the eastern part of the province south of the river, the soils are similar to those occurring in the Maritime Provinces, this area being part of the land area generally classified as the

Appalachian uplands. Climatic conditions vary over the area covered by these farm lands. Generally the climate is less humid and cooler than in the more southerly farming areas of Ontario, notably the Niagara peninsula.

One of the features of Quebec agriculture which springs directly from the culture of the province is the close association of the farm and the family. A further feature is the relative importance in farm income of the returns from forest products and from maple syrup and its derivatives. Fishing and forestry are closely associated with farming in the province along the southern shores of the St. Lawrence River. Thus, while fishing is of relatively small importance in relation to the total provincial net value of production, the industry gains importance in certain areas of the province, notably in the Gaspé peninsula. The sports fisheries of the province are also a significant item in the attraction of the region to tourists.

### *Ontario*

The importance of secondary manufacturing in the Ontario economy is even greater than that noted in the case of Quebec. Secondary manufacturing in 1953 accounted for some 58% of the total net value of production in the province. A distinguishing feature of secondary manufacturing in Ontario is the relatively high proportion of its total which is represented by industries classified under transportation equipment and under iron and steel production. These account for some 40% of Ontario's total secondary manufacturing. They reflect the fact that iron and steel production is concentrated largely in the province. This local source of materials adds to the strategic advantages of the province in respect of other factors, related mainly to the proximity of markets, to foster a wide range of related manufacturing activity. The most significant of these is the automobile industry. In conjunction with the aircraft industry, which has assumed large proportions in Ontario, the automobile industry has far-reaching implications for the remaining sectors of secondary manufacturing. Production of heavy machinery, agricultural implements, and electrical machinery and apparatus, and extensive industries turning out sheet metal are further characteristics of the province's secondary manufacturing; and there is a relatively important production of chemicals and allied products. Secondary manufacturing in Ontario tends to be more diversified and more highly integrated than elsewhere in Canada.

The Ontario agricultural products industry in 1953 was the most important of the resource industries of the province in terms of net value of output. This situation obtained in only one other region in Canada, namely, the Prairie Provinces. The agricultural products industry in that year accounted for slightly more than 11% of the total net value of Ontario production. The industry is diversified and, as might be expected, is geared largely to the consumption requirements of large centres of population within the province. The processing of farm products formed an exceptionally

high proportion of the total value of production, the high ratio of processing to primary farm production arising in part from the fact that the Ontario agricultural industry draws from the Prairie Provinces for some of its raw materials and markets some of its products outside the province.<sup>2</sup> Tobacco production is a more important crop in Ontario, not only because of the value of output, but because of its importance as an agricultural export from the region. A further feature of agriculture in Ontario is the specialized farming of the Niagara peninsula. In this relatively narrow belt, Ontario possesses one of the few farming locations in Canada which permit extensive commercial production of sensitive high-value fruits such as peaches and grapes.

The forest products and the mining and mineral-processing industries are of approximately equal importance in their contribution to the net value of provincial output. Ontario, as in the instance of the Province of Quebec, includes large areas of the Canadian Shield, which has long been the source of mineral production in Ontario. Nickel production has been a prominent feature of Ontario mining and mineral-processing activities for many years, and the province is the source of a very high percentage of the total world production of this metal. The province has also been an important source of copper and platinum. The production of iron ore and asbestos in recent years and current uranium development have broadened the base of the industry by increasing the diversity of the mineral production. Although there are commercial occurrences of natural gas and crude petroleum in Ontario, the province, together with Quebec and in contrast to the western regions and the Atlantic Region, lacks significant resources of mineral fuels. Quebec's hydro-electric power resources and its accessibility to water-borne coal from Nova Scotia and to oil at world prices, have largely eliminated any handicap which might arise from this deficiency. On the other hand, Ontario has been able to draw on United States resources of iron and coal through the efficient water transportation provided by the Great Lakes system, which forms its southern border. It is hardly necessary to recall that the drainage of these lakes into the Atlantic Ocean via the St. Lawrence River has greatly influenced the development of the two central regions of Canada. It is characteristic of Quebec and Ontario that much of their industrial development lies along the shores of this river and these lakes, thus forming a great industrial axis running from Quebec City to Windsor, Ontario.

The forest resources of Ontario, if somewhat less extensive in terms of accessible lands, are more varied in tree species than those of the Province of Quebec. Many of the northerly sections — in the Boreal Forest Region — contain large stretches of coniferous forests. Only in the extreme north of the province do the forests thin out and disappear, leaving only the bare rock, muskeg and tundra of the Arctic. Forests of the Great Lakes-St.

<sup>2</sup> The British Columbia agricultural products industry also shows a strong emphasis on primary processing.

Lawrence region, it will be noted from the map, extend from the Lake of the Woods area in the western part of Northern Ontario through much of the province south of a line drawn from that point eastward to the Quebec border. These forests are similar to those already referred to in Quebec. The most important species are the pines, yellow birch and hemlock, although other species such as maple, northern red oak and elm are of some significance.

A distinguishing feature of the region, however, is the small belt of deciduous forests native to the southern tip of Ontario. Here conifers are few and there occur the broadleaved species — the sugar maple, beech, white elm and basswood and, to a lesser degree, the tulip tree, cucumber tree and blackgum, which have their northern limits in this locality.

Approximately 50% of the net value of the forest products industry in Ontario arises out of pulp and paper production. Lumber production in 1953 was relatively more important within the forest products industry of Ontario than in that of Quebec, and amounted to some 40% of the net value of production of pulp and paper. It should be noted also that the forest areas of both Ontario and Quebec, particularly the northern areas, have long been a source of animal furs.

Although the fisheries of the Great Lakes yield a higher net value of production than do the fisheries of the Province of Quebec, the resources of the industry are severely limited by comparison with the other resources of the province. In both provinces the fishing products industry is of local rather than provincial significance in terms of the dollar value of production. The sports fisheries of the more northerly lakes and rivers, as in the instance of Quebec and most of the Canadian provinces, have combined with the other attractions of these pioneer areas to form a valuable resource for the region.

### *The Prairie Region*

The very large contribution of the Prairie Region to the Canadian total output of agricultural products has been noted already. Within the region also, the industry is of primary significance. In 1953 agricultural products amounted to almost 43% of the regional total net value of production. This feature of the Prairie economy tends to overshadow the importance of mining and mineral processing in the area, and it should be noted that although the latter industry accounted for little more than 12% of the total regional output in 1953, it yielded products almost equal in value to the total product of the industry in the Province of Quebec. The fisheries of the region are relatively minute, and the output of forest products forms only a small percentage of the total regional commodity production.

There are, however, significant economic distinctions among the three Prairie Provinces which are vital to an appreciation of the regional economy. The agricultural products industry is much less preponderant in Manitoba

and Alberta than in Saskatchewan. Some 68% of Saskatchewan's net value of output in 1953 came from agricultural products, whereas the comparable figure in Alberta was 32% and in Manitoba some 29%. Moreover, sources of agricultural income vary from province to province. Saskatchewan's agriculture is heavily weighted toward the production of grain, and especially of wheat, whereas agriculture in Alberta and Manitoba is somewhat less specialized. These differences arise from basic variations in agricultural conditions within the region.

Reference to the map of Canadian soil zones shows that Saskatchewan contains a relatively large proportion of the dark brown soils of the region. High in humus content from their grass origin and highly fertile, because low rainfall has prevented leaching of mineral content, these soils occur in certain areas of Saskatchewan, notably in the so-called Regina Plains, under climatic conditions which are highly suitable for the production of hard wheat. To the south and west of this belt of soil there are lighter brown soils, which reach into Alberta. Experience has shown that, under the more arid conditions obtaining in these areas, the resources are more suitable to cattle raising and, under conditions of irrigation, to special crop raising than to wheat or grain production. These special crops include sugar-beet, vegetables, and tobacco. Conditions in this area were severe in the period of drought in the early 1930's and gave rise to the comment that the difficulties of the region spring from the fact that its roots are in the sky. It is this background of drought that, in association with local power requirements, explains local emphasis on the development of further irrigation.

Conditions are also suitable for grain production in Alberta and Manitoba. The soils of the Regina Plains extend into Alberta and are the basis of grain raising in that province. Climatic conditions, over large areas, are somewhat less favourable in Alberta to the production of highest-grade hard wheat. In Manitoba the grains are grown on the black soils which form a belt bordering to the north the wheatlands of Saskatchewan and Alberta but extending farther south in eastern Saskatchewan and Manitoba. Also of grass origin, these soils are highly fertile, but because they generally occur in the more humid areas of the region, there is a tendency to use them for more diversified farming. Still farther north, fringing the areas of the Canadian Shield which reach into the Prairie Provinces, are the grey-wooded soils. These are less fertile than the grassland soils for continuous farming operations, but under the more northerly climatic conditions of the region, they are better suited for mixed agriculture. In this area farms tend to be small by comparison with those used for large-scale wheat operations, and they are often of a pioneer nature.

The processing of agricultural products, notably flour-milling and meat-packing, is an important segment of the regional agricultural industry. It tends to be more important in Manitoba and Alberta, reflecting in part the greater incidence of livestock and livestock products in these provinces.

Primary processing of agricultural products, however, forms a lesser proportion of total primary agricultural production than it does in Ontario. This is due, in part, to the high percentage of grain which is exported as such from the Prairie Provinces. On the other hand, Ontario, as noted elsewhere, draws from the Prairie Provinces for raw materials for its agricultural processing industry.

In mining, as in agriculture, there are significant differences in the activities of the individual Prairie provinces. A high proportion of the regional output of mining and mineral processing in 1953 came from the Province of Alberta, and it will be recalled that the Prairie Provinces as a region accounted in that year for nearly one quarter (23.9%) of Canadian total output. The industry represented nearly 22% of total net value of production in Alberta, while agricultural output covered some 32%. In Saskatchewan mining and mineral processing were less than 5% of the total provincial net value of production. The comparable figure in Manitoba was less than 3%. It is well known that large areas of Saskatchewan and Alberta are underlain by coal deposits which progress from the lignites of southern Saskatchewan to the low- and medium-volatile bituminous coals of the foot-hills and mountains of Alberta. Coal mining in both provinces has been overshadowed recently by greatly increased production of oil and gas. Exploitation of these oil and gas resources is extending to Saskatchewan and Manitoba, but much higher production in Alberta accounts largely for that province's pre-eminence in the regional mining and mineral processing industry. The 1953 figures undoubtedly understate the importance of the industry in the Prairie Provinces, particularly in Alberta, as the rate of growth of primary production and related processing has been phenomenal in the subsequent period.

These mineral fuel resources arise largely from the extension of geological structures from the United States. On the other hand, the Canadian Shield extends over large areas of the region, spreading across from Manitoba at its southeastern boundary to cover large areas of the northern sections of Manitoba and Saskatchewan and the northeastern tip of Alberta. In Manitoba the Shield has been the source of hydro-electric power as well as of the production of copper, zinc and nickel. Further large-scale production and refining of nickel is now being developed. Uranium, coal, copper, zinc and potassium are the important minerals produced in Saskatchewan, recent discoveries of further large deposits of the last-mentioned having given new importance to this mineral in the province. In 1953 the processing of minerals formed a relatively small proportion of the regional mining and mineral-processing industry, much of the total value of output arising out of primary mining operations.

Very considerable stretches of the Prairie Provinces to the north and farther south in the foot-hills of Alberta are covered by forests. The trees are boreal in character, but as the grasslands of the Prairies farther south

are approached, the coniferous trees receive a strong admixture of deciduous trees, mainly birch and poplar. Much of the production from these forests is in the form of lumber, but recent technological advances and increased demand have expanded their use for pulp and paper production.

Secondary manufacturing in 1953 formed a relatively smaller proportion of total net value of production in this region than in the Atlantic Provinces. It accounted for just over 16% of the total regional net value of commodity output and compares with over 19% in the Atlantic Region and nearly 17% in British Columbia. In Manitoba, however, which contributed 48.2% of the regional total of secondary manufacturing, secondary manufacturing accounted for some 34% of total net value output. This figure may be compared with some 14% for Alberta and just over 7% for Saskatchewan. The Manitoba figures reflect the prominent position of Winnipeg as a fabricating and distributing centre for the region. In conformity with the general pattern of the Canadian economy, much of the industry is directed to local regional requirements for commodities which can be produced competitively within the region. It is interesting to note that some of these industries, notably the needle trade, which developed on the basis of the regional market, eventually spilled over to become significant factors in the national market. This activity is largely concentrated in the city of Winnipeg. Later figures reflect a growing diversity of secondary manufacturing in Alberta, related in particular to chemical production based on the petroleum and natural gas resources of the province.

### *British Columbia*

The outstanding feature of the economy of British Columbia is the pre-eminence of the forest products industry. In 1953 the net value of production of the industry amounted to almost 35% of the total provincial net value of production. As noted earlier, British Columbia contributes almost as much as the Province of Quebec to the net value of Canada's output of forest products. In contrast with Quebec, however, where pulp and paper products are pre-eminent, the chief products of the industry in British Columbia are lumber and allied construction materials, plywoods, veneers and other specialty wood products.

The province is particularly rich in its forest formations. They are extensive in area and yield a great variety of trees, including such valuable species as Douglas fir and cedar. Much of the coastal area is covered by the coniferous forests which are found along the Pacific coast of North America and extend to British Columbia. These forests are characterized by western red cedar and western hemlock. In the southern portions of the province the Douglas fir is more prominent, while in the north the Sitka spruce becomes more prevalent. Red cedar and amabilis fir become more common toward the timber line in the mountains to the east, where they are joined by western hemlock and Alpine fir. In the interior uplands of British Columbia, notably

in the Kootenay Valley, the characteristic species of the forests change somewhat. Douglas fir and ponderosa pine are particularly important species in the southern and central sections. In the northern sections the Engelmann spruce and Alpine fir reach into the montane forest from the more northerly subalpine areas of the forest. In the far north the prevalence of black and white spruce and other conifers gives the British Columbia forests the general characteristics of the ubiquitous boreal forests. On the basis provided by these extensive forest lands, with their rich admixture of species, the province has established a highly integrated forest products industry. Thus its lumber production is more closely related to pulp and paper activities than in the other regions of Canada, although this industrial pattern is spreading rapidly to other parts of the country. The production of the British Columbia forests is marketed in Canada and also on an international basis, notably in the United Kingdom and the United States.

Mining and mineral processing in 1953 ranked second among the resource industries of British Columbia. The 1953 figures of course do not include the more recent developments at Kitimat, which is now the site of large-scale primary production of aluminum, a development which has broadened the base of the industry and substantially increased the proportion of mineral processing in relation to primary mining operations. The mineral resources of the province, like the British Columbian forests, are extensive and of great variety. The bituminous coal deposits on Vancouver Island and in the Crows Nest Pass area of the interior, have long supported a substantial coal mining industry. The latter deposits include areas of coals suitable for the manufacture of metallurgical coke. Over the years the manufacture of coke in the area has been associated with the production of lead, zinc and silver at Trail, a major item of British Columbia mining and mineral processing. Gold, copper, tungsten and asbestos are produced on a smaller scale. The northeastern part of the province is underlain by the same geological formations that in Alberta have proved so favourable to the occurrence of oil and natural gas. The discovery of large supplies of natural gas in the Peace River area has resulted in the construction of pipelines for the supply of gas to the coastal areas of the province and for export to the United States. This development has added to the wealth of the province in mineral fuels. It is well known that British Columbia has vast potential resources of hydro-electric power.

This diversity of activity and mineral wealth, like many aspects of the provincial economy, has its origin in the basic geology of the province. British Columbia is traversed by a portion of the great Cordilleran mountain system which borders the Pacific coast of South, Central and North America. Within its borders there are three sections of this system — the eastern, the central and the western. The highly scenic eastern section contains the important coal deposits that have been the basis of mining in the British Columbia and Alberta areas of the Crows Nest Pass. The topographical break between the eastern and central sections of the western Cordillera,

known as the Rocky Mountain Trench, contains the head waters of the Kootenay, Columbia, Fraser, Peace and Liard Rivers, thus offering important large-scale electric power potential. In the southern portions of the province — at Slocan and Kimberley — the central Cordillera has yielded lead, zinc and silver deposits. The western section of the mountains, also remarkable for scenic beauty, has likewise proved to be highly mineralized. On the interior side of the coastal range there are deposits of gold and silver, with some associated copper, lead and zinc, such as those of the Taku, the Premier and the Bralorne Valleys. On the coastal side of the range there are deposits of copper, lead and zinc, iron ore and the gold deposits on Vancouver Island.

Somewhat the same thing is apparent in respect of the agricultural products industry of the province. The wide range of climatic conditions and the variation of soils provide the basis for a diversified agricultural products industry. The industry ranks third among the resource industries of British Columbia. The brown soils which occur along the coastal areas closely resemble the podsollic soils of eastern Canada. Under the warm humid conditions of this area, the characteristic activities are dairying, horticulture, market-gardening and livestock-raising. In the drier valleys of southern British Columbia, the grassland soils and the more arid climatic conditions have, by the aid of artificial irrigation, provided the basis for a specialized production of premium fruits, such as peaches and apricots. Beef-cattle are an important production of the industry in the plains of the central area, while farther north the grey-wooded soils have proved suitable for mixed farming and grain production. In respect of farming practices, the unit size of the farm and other general characteristics of agriculture in British Columbia are more closely related to those of the eastern regions of Canada than to those of the Prairie Provinces. On the Prairies, the vast stretches of land suitable for mechanization have made the large-unit size of the farm a special feature of the region. Part-time farming has a higher incidence in British Columbia than elsewhere in Canada, except in Nova Scotia, Newfoundland and New Brunswick.

The fisheries products industry, the fourth-ranking resource industry of the provincial economy, although diversified, is highly characterized by its salmon fisheries. The salmon is a high-value product, and there are special features of the salmon fisheries which add to the high productivity of the British Columbia fisheries products industry. The salmon runs tend to concentrate catching operations. The fish tend to be of the same age-group, and the resultant similarity of size facilitates automatic handling through all stages of the industry, from catching to canning. The lobster of the Atlantic coast fisheries is absent, but British Columbia has other specialties, such as the crab fisheries. Herring production in British Columbia is greatly in excess of herring production in the Atlantic Region. The statistics suggest that fish-processing in British Columbia by comparison with primary catching operations, is much more highly developed than in the Atlantic

Provinces. This reflects in part the specialty of the salmon fisheries. It is indicative, however, of a further feature of the British Columbia fisheries products industry, namely, that it is more highly concentrated in operation and organization. Capital investment both in primary catching operations and in fish-processing is materially greater in relation to output than elsewhere in Canada. The products of the industry are marketed extensively throughout Canada, but large quantities of canned salmon in particular have been traditionally marketed in the United Kingdom and other countries.

As noted earlier, secondary manufacturing in British Columbia in 1953 accounted for some 17% of the provincial net value of commodity output. Food production, oil-refining, fertilizer production, shipbuilding and other industries using iron and steel are of relative importance in the province. Normally, production is geared to local consumption. The shipbuilding industry is one of the important exceptions to this. As in the Atlantic Region, it is founded on the requirements of commerce, those in particular that are associated with the activities of the Port of Vancouver, and on Canada's defence requirements.

### *The Labour Force and Employment*

It is equally legitimate, and hardly of less fundamental interest, to look at the regional economies from the point of view of the number of people engaged in different activities as distinct from the dollar value of production in commodity production. As will be seen later, the relative importance of different industries does in fact change when the yardstick is the number of people employed in the industry rather than the net value of output. There is a further merit in approaching the regions from this point of view in that the labour force statistics cover total economic activity, whereas the net value of production figures cover only the sectors of the economy concerned with the production of commodities.

In the first place, it should be noted that there are distinct differences between the regional share of the total Canadian population and the regional share of the Canadian labour force.

Table 4

### REGIONAL PERCENTAGE OF CANADIAN POPULATION AND LABOUR FORCE, 1955

	Percentage of Canadian population	Percentage of Canadian labour force
Atlantic Provinces.....	11.3	9.4
Quebec.....	29.0	28.2
Ontario.....	33.2	36.4
Prairie Provinces.....	18.0	17.7
British Columbia.....	8.4	8.2
Canada.....	100.0 (a)	100.0 (a)

(a) The figures do not add to 100% as the Canada figures include the population in the labour force of the Yukon and Northwest Territories.

SOURCES: *Population of Canada by Provinces, 1921-1955*; *The Labour Force*, June, 1955, Dominion Bureau of Statistics.

The significance of these figures is discussed at some length later in the study. At this point it might be noted that the differences among the regions reflect in part the tendency of the populations of the Atlantic and Quebec Regions to contain a relatively greater number of people of dependent age, owing principally to their higher rate of natural increase. The high proportion of the labour force represented by Ontario reflects in part the strong attraction Ontario has had for immigrants in recent years, a factor which tends to strengthen the population in the labour force age-brackets. Immigration has also been important in maintaining the close correlation between British Columbia's proportion of the population and its proportion of the labour force. The attraction of British Columbia for those of retirement age has not affected the balance largely because of the influx of immigrants into the province. The immigrants tend to be proportionately concentrated in the working-age brackets and thus to strengthen those age groups in the recipient areas.

The figures are also indicative of different degrees of participation in the labour force by those who are of working-force age. In Table 5 the labour force of each region is expressed as a percentage of the total regional population. In the second column the labour force is expressed as a percentage of the regional population of working age. It will be appreciated that a lower rate of participation in the labour force of those of working age, expressed in the second column, generally reflects a slower pace of economic activity, but that the higher participation rates in Ontario and Quebec, notably the former, are also indicative of the greater diversity of economic activity in those two provinces. To a considerable extent they reflect a greater employment of women in Ontario and Quebec.

Table 5

**THE LABOUR FORCE AS A PERCENTAGE OF TOTAL POPULATION  
AND OF THE POPULATION OF WORKING-AGE BY REGIONS  
1955**

	Labour force as percentage of total population	Labour force as percentage of population age 14-65
Atlantic Provinces.....	30.0	47.4
Quebec.....	35.1	53.4
Ontario.....	39.5	56.2
Prairie Provinces.....	35.4	52.4
British Columbia.....	35.2	50.8

SOURCE: See Table 4.

Table 6, which is calculated from the 1951 Census, indicates, for each province and region, the percentage of the labour force engaged in that year in the different occupational classifications.

Table 6

## THE OCCUPATIONAL DISTRIBUTION OF THE LABOUR FORCE BY PROVINCES AND REGIONS, 1951

	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Maritime Provinces	Atlantic Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Prairie Provinces	British Columbia
Proprietary and managerial.....	6.4	5.7	7.0	6.8	6.8	6.8	7.3	8.3	7.3	6.7	7.5	7.2	8.9
Professional.....	5.1	5.7	6.4	6.4	6.4	6.1	7.6	7.3	6.2	6.2	6.6	6.4	7.5
Clerical.....	6.3	5.1	7.9	8.1	7.7	7.4	10.1	13.1	11.4	6.2	8.3	8.6	11.0
Agricultural.....	3.5	37.9	10.6	15.7	14.9	12.6	13.3	10.8	24.7	48.8	32.5	35.3	6.4
Fishing, hunting and trapping.....	17.3	5.7	4.5	2.6	3.9	6.6	.3	.1	.5	.4	.3	.4	1.2
Logging.....	8.6	.7	2.3	8.7	4.7	5.4	2.4	.9	.4	.2	.4	.3	4.0
Mining and quarrying.....	2.1	—	5.4	.6	3.0	2.9	.8	1.1	.7	.3	2.1	1.1	1.6
Manufacturing and mechanical.....	8.1	6.1	10.0	10.3	9.8	9.4	19.2	20.0	11.4	4.6	7.2	7.7	13.2
Electric power.....	1.4	.7	1.6	1.0	1.3	1.3	1.0	1.3	.8	.5	.8	.7	1.9
Construction.....	6.7	4.9	6.4	5.2	5.8	6.0	6.2	5.6	5.0	2.7	5.3	4.4	6.4
Transportation.....	9.1	5.4	7.9	8.4	7.9	8.1	6.3	5.8	6.6	5.7	6.4	6.2	8.2
Communication.....	1.3	1.2	1.5	1.3	1.4	1.3	1.2	1.5	1.3	1.1	1.0	1.1	1.6
Commercial.....	5.2	4.7	5.3	5.4	5.3	5.3	5.5	6.1	6.2	5.1	5.8	5.7	6.6
Financial.....	.1	.2	.3	.3	.3	.3	.5	.7	.6	.4	.6	.5	1.0
Service.....	9.8	10.5	13.7	9.6	11.8	11.4	9.2	9.6	10.2	7.6	9.9	9.3	11.9
Armed Forces.....	.7	3.1	4.7	1.4	3.3	2.7	.6	1.4	1.5	.3	2.0	1.3	1.8
Labourers.....	8.0	4.6	7.7	8.0	7.6	7.7	7.3	6.8	5.9	3.0	4.7	4.5	7.2
Not stated.....	1.0	.9	1.5	1.6	1.4	1.4	1.8	1.0	.8	.5	.6	.6	1.4
All occupations(a).....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) The data are not sufficiently accurate to permit reconciliation so that column figures correctly add to 100% or that average regional figures are absolutely correct.

The figures confirm the much greater emphasis on manufacturing in the central regions, Quebec and Ontario, and a corresponding emphasis on resource industries in the other regions. These contrasts would be greater if the statistics were available to distinguish between secondary manufacturing and primary processing. The figures also show that the tertiary industries covering the transportation, communications, commercial, financial and service categories of employment are more important in the outlying regions than might be expected. In the Atlantic Provinces and British Columbia the high proportion of employment in these industries reflects the national importance of the ports and other transportation facilities of these regions. In the Atlantic Provinces, it will be noted, military personnel formed an exceptionally important part of the regional labour force. As set up, these figures, with the possible exception of the item "clerical", do not indicate clearly the relative concentration of commercial and financial business activities in the central provinces, a feature of the Canadian economy which has some importance in any discussion of regional economic development in Canada. Somewhat in contrast with their counterparts in the United States of America, the major railways, the banks and most of the financial institutions in Canada are national in scope and in organization. In the United States, regional institutions have played a more prominent role. The results tend to be more far-reaching than a mere congregation of executives and staff in the central Canadian regions. Major decisions on investment, industrial location and transportation — to illustrate — tend to be less responsive to regional commercial and financial institutions in Canada than in the United States.

In Tables 7 and 8, figures showing the net value of production and employment and covering the commodity-producing sectors of the regional economies are tabulated in two different ways. In the first of these two tables, the regional percentage of the total Canadian net value of production broken down by industries appears beside the regional percentage of the total Canadian labour force in those industries. In the second table the figures are related to the internal position of each regional economy.

Attention is drawn, in the first place, to the difference of emphasis in the industrial sectors of the regional economies when measured by net value of production and when measured by employment. The tables indicate this in the first instance from a national and in the second from a regional viewpoint.

In the second place, the tables are somewhat suggestive of the advantages of the regional industries in relation to those of other regions (Table 7) and in relation to other industries within the same region (Table 8). The word suggestive is used advisedly, for the statistics in themselves cannot be expected to be sufficiently accurate to permit their use to any definitive degree. In the second place, the observations made would ultimately become involved in the subject of comparative productivity per worker employed. As the figures represent net value of production, it will be readily recognized that the

Table 7

NET VALUE OF PRODUCTION AND EMPLOYMENT BY REGIONS AND INDUSTRIES  
EXPRESSED AS A PERCENTAGE OF NATIONAL TOTALS, 1953

	Forest products		Mining & mineral processing		Fisheries products		Agricultural products		Secondary manufacturing		Residual primary products		Electric power		Construction		Total	
	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.
Atlantic Provinces	11.2	19.3	8.1	18.0	47.7	59.9	3.6	6.4	2.4	3.1	1.8	1.5	6.5	7.8	6.9	9.1	5.4	9.0
Quebec.....	32.1	31.4	25.3	24.8	3.4	8.4	17.0	23.4	30.6	34.9	32.4	40.6	33.5	21.4	23.9	26.2	26.9	28.2
Ontario.....	23.2	20.5	33.2	34.1	5.0	4.0	30.4	27.3	57.0	52.5	45.4	46.8	36.7	52.7	34.7	33.7	42.1	36.4
Prairie Provinces...	3.8	4.7	23.9	12.0	2.8	11.1	45.4	39.9	6.3	6.1	—	—	13.2	11.9	21.8	20.4	16.3	19.4
British Columbia...	29.7	24.1	9.5	11.1	41.1	16.6	3.6	3.0	3.7	3.4	20.4	11.1	10.1	6.2	*12.7	10.6	9.3	7.0
Canada.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: *Census of Canada, 1951*, Dominion Bureau of Statistics. (See also Appendices A, B and C.)

Table 8

**NET VALUE OF PRODUCTION AND EMPLOYMENT BY REGIONS AND INDUSTRIES  
EXPRESSED AS A PERCENTAGE OF REGIONAL TOTALS, 1953**

	Forest products		Mining & mineral processing		Fisheries products		Agricultural products		Secondary manufacturing		Residual primary products		Electric power		Construction		Total	
	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.	Net value	Empl.
Atlantic Provinces	22.3	18.0	12.4	8.6	8.8	21.0	10.3	22.1	19.5	11.8	0.3	0.1	3.9	1.4	22.5	17.0	100.0	100.0
Quebec.....	13.0	9.4	7.8	3.8	0.1	0.9	9.7	25.9	48.7	42.5	1.1	0.6	4.0	1.2	15.6	15.7	100.0	100.0
Ontario.....	6.0	4.7	6.5	4.0	0.1	0.4	11.1	23.2	58.0	49.3	1.0	0.6	2.8	2.3	14.5	15.5	100.0	100.0
Prairie Provinces ..	2.5	2.1	12.1	2.6	0.2	1.8	42.8	63.9	16.4	10.8	—	—	2.6	1.0	23.4	17.8	100.0	100.0
British Columbia	34.7	28.9	8.4	6.8	4.4	7.4	6.1	13.0	16.9	16.6	2.0	0.7	3.5	1.4	24.0	25.2	100.0	100.0

SOURCES: Same as Table 7.

resultant productivity figure might have as much to do with the degree of capital investment or effective management or with other features of the industry as with the comparative advantage or the wealth of the particular resource concerned. If the figures are not pressed beyond the preliminary observation, however, there does seem to be some validity in noting large disparities in the performances of different regional industries as these appear in relation to national averages or to other industries within the individual regions. The probability is that in such instances the figures are capable of reflecting favourable resources or exceptional productive facilities in different regions.

From the national point of view, British Columbia, Quebec and Ontario, in that order, appear to have held a preferred position in 1953 in their forest products industries, a bigger proportion of the total of Canada's net output of forest products being secured in these instances with a considerably lower proportion of the total labour force engaged in Canada's forest products industry. The Prairie Region was outstanding on this basis in mining and mineral processing and in the agricultural products industry. British Columbia required less than 17% of the total labour force to produce over 40% of Canada's total net value of fisheries production, but did not duplicate this position in mining and mineral processing nor in agriculture. Ontario's position was strong in all sections of the economy covered by the net-value-of-production series,<sup>3</sup> but was less so in mining and mineral processing. In this industry Quebec produced a high proportion of the total Canadian output in relation to the proportion of the total man-power of the industry required by the province but was in a less preferred position in relation to secondary manufacturing and agricultural production, and had much less advantage in regard to fisheries products. The Atlantic Provinces were closer to the average of the Canadian industry in secondary manufacturing and fisheries products, but did not show any outstanding strength in any of the industrial sectors.

If reference is made to the second table (Table 8) and the relationships are seen from a regional standpoint, it will be seen that the comparative advantages of the resources of the regions often appear to change. In the Atlantic Provinces, for example, the mining and mineral-processing and the forest products industries require proportionately less of the total regional labour force to produce their contribution to the total regional net value of output. It will be noted that these same industries gained ground on this basis in all the regions, the mining and mineral products industry of the Prairie Provinces appearing in a particularly strong position. It would appear that the first table would be more valuable in considering in a preliminary

<sup>3</sup> The electric power figures reflect a temporary developmental stage of the industry.

Table 9

**PERSONAL INCOME PER CAPITA AND ITS COMPONENT PARTS BY PROVINCES AND REGIONS  
EXPRESSED AS A PERCENTAGE OF THE NATIONAL AVERAGE:  
AVERAGE 1951-55 INCLUSIVE IN CONSTANT 1955 DOLLARS**

	Total personal income per Capita \$	Index = Can. 100	Earned income Index = Can. 100	Interest, dividends etc. Index = Can. 100	Government transfer payments Index = Can. 100
ATLANTIC PROVINCES.....	785	64.9	62.6	52.2	95.9
Newfoundland.....	638	52.7	51.7	35.4	90.8
Prince Edward Island.....	650	53.7	49.2	42.4	93.9
Nova Scotia.....	888	73.4	70.1	60.2	96.9
New Brunswick.....	787	65.0	63.5	54.0	99.0
QUEBEC.....	1,033	85.4	85.8	85.8	90.8
ONTARIO.....	1,448	119.7	120.6	130.1	94.9
PRAIRIE PROVINCES.....	1,209	99.9	101.0	92.0	100.0
Manitoba.....	1,140	94.2	95.2	85.8	92.9
Saskatchewan.....	1,217	100.6	101.2	94.7	108.2
Alberta.....	1,258	104.0	105.6	93.8	99.0
BRITISH COLUMBIA.....	1,417	117.1	115.7	118.6	150.0

SOURCE: Calculated from *National Accounts, Income and Expenditure*, Dominion Bureau of Statistics.

way the prospects of a region making a further contribution to the national output in any particular industrial sector of the economy, whereas the second table is more suggestive of industries which are conducive to increased regional income.

### *Personal Income*

A further series of data, personal income figures, is available on a regional basis. As published, these do not permit any great depth of penetration as regards ultimate sources of personal income. They do, however, suggest some interesting factors regarding the regions. In the first instance, these figures may be taken in a broad sense as the financial results of regional economic activity. As they include interest and dividends, there is implicitly an element of longer term achievement in them. The total personal income figures also include government transfer payments, and it is probable that at least part of these payments should be extracted if the purpose is to relate total figures to economic achievement. As there are considerable fluctuations in the figures from year to year, notably in the figures for the Prairie Region, where the vagaries of weather and international markets greatly influence the position in any one year, the average over a period of, say, five years gives a more meaningful picture than any single year. In Table 9, which sets out personal income by regions, the figures are average figures covering the period 1951 to 1955 inclusive.

The outstanding feature of these figures is the very considerable disparity in personal income per capita among the regions. Nor can the differences between provinces within the regions be ignored, especially in the instance of the Atlantic Provinces. It will be seen that income per capita in the Atlantic Provinces in the period was approximately 65% of the Canadian average. The position was somewhat improved in Quebec, but in that province income per capita was nearly 15% below the national average. The most dramatic comparison in income per capita is probably between Newfoundland and Prince Edward Island and the provinces having the highest income per capita, Ontario and British Columbia. Income per capita in Ontario and British Columbia was more than double that of Newfoundland and Prince Edward Island. These two Atlantic provinces, it will be seen, were well below the average for the Atlantic Region as a whole and consequently considerably below the other two Atlantic provinces, New Brunswick and Nova Scotia — notably Nova Scotia, in which income per capita was highest within the region. As regards the Prairie Region, it will be noted that Manitoba was well below the regional average, while Alberta stood well above it.

It is apparent also from the foregoing figures that there is an even greater gap between the Atlantic Provinces and the other regions when the compari-

Table 10

**RELATIVE IMPORTANCE OF EACH COMPONENT TO TOTAL PERSONAL INCOME PER CAPITA  
BY PROVINCES AND BY REGIONS (a), 1955**

	Earned income	Interest and dividends	Government transfer payments
ATLANTIC PROVINCES.....	78.4	7.9	12.2
Newfoundland.....	79.3	6.6	15.0
Prince Edward Island.....	76.1	7.0	15.5
Nova Scotia.....	77.4	8.3	10.6
New Brunswick.....	79.4	8.2	12.3
QUEBEC.....	81.7	9.9	9.2
ONTARIO.....	82.0	10.8	6.8
PRAIRIE PROVINCES.....	81.0	8.9	10.0
Manitoba.....	81.2	9.1	9.2
Saskatchewan.....	79.9	8.8	12.0
Alberta.....	81.5	8.9	9.2
BRITISH COLUMBIA.....	80.2	10.1	10.8
CANADA.....	81.1	10.0	8.8

(a) Owing to technical procedures followed in the preparation of *National Accounts, Income and Expenditure*, the totals of the various columns do not in all cases add to 100.  
Source: Calculated from *National Accounts, Income and Expenditure*.

son is restricted to earned income.<sup>4</sup> On the basis of per capita investment income, Ontario and British Columbia — notably the former — are well above the average, while government transfer payments are above average in respect of British Columbia and the Prairie Region. Special provincial social security payments in Saskatchewan tend to exaggerate the Prairie regional figures in respect of government transfer payments. The British Columbia figures reflect not only special provincial social security provisions but a higher incidence of pensions received by older people from government sources. Table 10 shows the relative importance of the different component parts of personal income per capita in the different regions in 1955.

Great caution must be used in any interpretation of these figures, especially in relating personal income per capita to personal welfare. It is hardly necessary to point out that personal income per capita and personal welfare are not, of necessity, synonymous terms; nor that welfare is a very difficult matter to measure. Wrapped up in the concept as it is normally used are a number of values which, in the ultimate analysis, are largely matters of personal opinion or prejudice. Some people, for example, prefer the amenities of the cities to those of suburban or rural living. Some value proximity to the sea or the mountains or the prairies and other associated pleasures more highly than the variety and faster tempo of city living. The concept of welfare is hardly less elusive when it is confined to material welfare, for even here personal predilections cannot be eliminated.

In our Canadian circumstances it appears that personal income per capita requires considerable adjustment if it is to be closely related to welfare. To a certain extent, these are "in particular" adjustments. The personal income figures, for example, include allowances for income in kind, notably in respect of farm income. These allowances may tend to be low for some statistical purposes, and in some instances they may serve to understate the welfare significance of non-cash forms of income. This has more significance in some regions than in others, for farming practices vary from region to region. This fact is still important, although it may be of declining significance owing to the increasing extent to which cash transactions are becoming characteristic of all forms of commercial activity in all the regions. Conversely, the figures tend, as average figures, to overstate in a number of instances the welfare significance of urban, relative to rural, incomes. It is generally recognized that the complexities of living in modern metropolitan centres impose a number of costs, such as transportation to and from work centres or to areas of recreation, which are not incurred to the same extent outside of these centres.

<sup>4</sup> More detailed discussion of the component parts of the personal income figures appears in *National Accounts, Income and Expenditure*, published by the Dominion Bureau of Statistics. Briefly, the components of total personal income are: (1) wages, salaries and supplementary labour income; (2) net income received by farm operators from farm production and net income of non-farm unincorporated business; (3) interest, dividends and net rental income of persons; (4) government transfer payments, family allowances, pensions, unemployment insurance benefits etc. Earned income here is taken to include items 1 and 2.

Again, the figures might be affected if allowances were made for taxation differences. The effects of the graduated tax structure of the federal government personal income tax would be in the direction of equalizing incomes over the breadth of the country. The dimensions of any adjustments to take this into account would appear to be small, and in many cases the higher incidence of provincial and other forms of local taxation would tend to offset the influence of the federal income tax in this regard. It might be noted that the adjustment would be in the opposite direction in outlying areas, such as the Yukon and Northwest Territories and probably Newfoundland, where the cost is noticeably higher, for the federal taxation structure does not take into account these differentials in costs.

A more important disqualification of income per capita figures as an interregional index of welfare in Canada is an implicit neglect of important differences in population characteristics. The size of the family group varies considerably among the regions. Large families are more typical, for example, in the Province of Quebec and in the Atlantic Region. In these circumstances it is generally conceded that income per family is a closer approximation of relative welfare than income per capita, for the cost of living for larger families does not rise in direct proportion to the number in the family. It will be noted from the following tables that the relative income position changes substantially when income is stated in terms of income per family rather than per capita.

Table 11

INDEX OF PER CAPITA AND PER FAMILY INCOME BY REGIONS:  
5-YEAR AVERAGE, 1951-55, IN CONSTANT 1955 DOLLARS  
(*Canada = 100*)

Region	Per capita	Per family
Atlantic Provinces.....	64.9	73.6
Quebec.....	85.4	96.9
Ontario.....	119.7	110.0
Prairie Provinces.....	99.9	99.9
British Columbia.....	117.1	104.4

SOURCES: Calculated from the *National Accounts, Income and Expenditure*, and *Estimates of Households and Families in Canada, 1955*, Dominion Bureau of Statistics.

It will be noted that on the basis of income per family the disparities among the regions are considerably reduced. In particular, the relative position of the Atlantic Region and of the Province of Quebec is greatly improved.

It should be noted also that whereas the personal income figures include, by reason of interest and dividend payments, a certain proportion of income from wealth, any definitive measurement of welfare would require further data regarding the distribution of wealth. It is reasonable to suppose that

there is a relative understatement of welfare in the personal income figures in the areas where there has been a relatively greater accumulation of private or social capital. This may be of some importance in more mature areas of Canada. It would appear to be of considerable significance in an evaluation of the position of Prince Edward Island. The income figures suggest that welfare in Prince Edward Island in 1955 was lower than in any other province of Canada. Those familiar with the province would question the validity of any such deduction. Over the years a gradual accumulation of wealth in the form of fine homes and farm buildings, so much a part of the island's economy, has made this an important offsetting factor in the interpretation of income per capita figures in terms of welfare. The subject is of greater importance, however, when the disparities between high- and low-income regions of Canada are related. Data are not available on wealth distribution in Canada, but there is little doubt that there has been a greater accumulation of wealth in the form of both personal and social capital in the higher income regions, with the result that personal income per capita figures tend to understate welfare in these regions.

Again, there are always difficulties in dealing with average figures. Differences in the distribution or dispersion of incomes within the regions may materially affect the significance of the average figures. It will be recognized that where there is a relatively larger group of low incomes the average figure for the particular region will tend to overstate the degree of welfare of the lowest income group. It is an interesting feature of the following statistics on non-farm incomes that there is less interregional disparity among the higher income groups than among the lower income groups. It will be noted, however, that in respect of the first two quartile groups in the Atlantic Provinces, income per capita in 1954 was little more than 50% of the corresponding group in Ontario.

Table 12

**AVERAGE INCOME OF ALL NON-FARM INCOME RECIPIENTS  
RANKED BY SIZE OF INCOME, BY QUARTILES, 1954**

	1st quartile		2nd quartile		3rd quartile		4th quartile	
	\$	%	\$	%	\$	%	\$	%
Atlantic Provinces.....	229	55	785	49	1,716	59	3,869	74
Quebec.....	391	94	1,404	87	2,545	87	5,135	99
Ontario.....	414	100	1,613	100	2,918	100	5,208	100
Prairie Provinces.....	357	86	1,276	79	2,483	85	4,675	90
British Columbia.....	348	84	1,349	84	2,823	97	5,164	99

SOURCE: *Distribution of Non-Farm Incomes in Canada by Size, 1954*, Dominion Bureau of Statistics. The first quartile includes 25% of the total group in each region, beginning with those at the lower end of the income distribution. The second quartile refers to 25% of the total who are next above on the income scale etc.

A somewhat similar pattern emerges when farm income figures are analyzed. The Commission's report, *Progress and Prospects of Canadian*

*Agriculture*, indicates that the proportion of low-income farms to what are termed full-scale farms is greatest in the Atlantic Provinces, Prince Edward Island being somewhat of an exception to this generalization. British Columbia, partly by reason of the prevalence of part-time farming within its borders, has a higher incidence of low-income farms than has Quebec, where, again, there is a relatively high proportion of low-income farms. The report also shows that there is less disparity in farm income between regions when income from full-scale operations only is the basis of comparison. It will be noted also from the figures in Table 13 that there is a considerable variation among the regions in the extent to which average farm income is below the average of full-scale farm income. In certain provinces and regions, notably Nova Scotia, New Brunswick, British Columbia and Quebec, there is a large income gap between full-scale farm and average farm incomes.

Table 13

## NET FARM INCOME, 1951-55

	Per farm all farms Can. = 100	Per full- scale farm Can. = 100	All-farm average as % of full-scale average
Prince Edward Island.....	57.2	63.0	60.4
Nova Scotia.....	34.7	64.5	35.8
New Brunswick.....	43.9	77.8	37.6
Quebec.....	79.2	88.1	59.8
Ontario.....	110.9	100.4	73.5
Manitoba.....	86.7	76.7	75.2
Saskatchewan.....	135.6	115.6	78.1
Alberta.....	128.1	117.8	72.4
British Columbia.....	57.1	76.9	49.4

SOURCE: Commission study, *Progress and Prospects of Canadian Agriculture*.

Two further factors require attention before conclusions can be drawn on a regional basis. These are comparative price levels and consumer spending habits. In spite of geographic factors and the variation of population characteristics and occupations, there is strong evidence to suggest considerable uniformity of demand patterns for staple consumer goods and services. This is particularly true of urban communities in all regions. Modern techniques of merchandising appear to have resulted in a large degree of similarity in the distribution of consumer expenditure in every region over a wide range of goods. This is supported by the data in Table 14, which were compiled for the Commission from a special study of consumer expenditures carried out for the year 1951.

Table 14

**PERCENTAGE DISTRIBUTION OF PERSONAL EXPENDITURE  
ON SELECTED ITEMS, 1951**

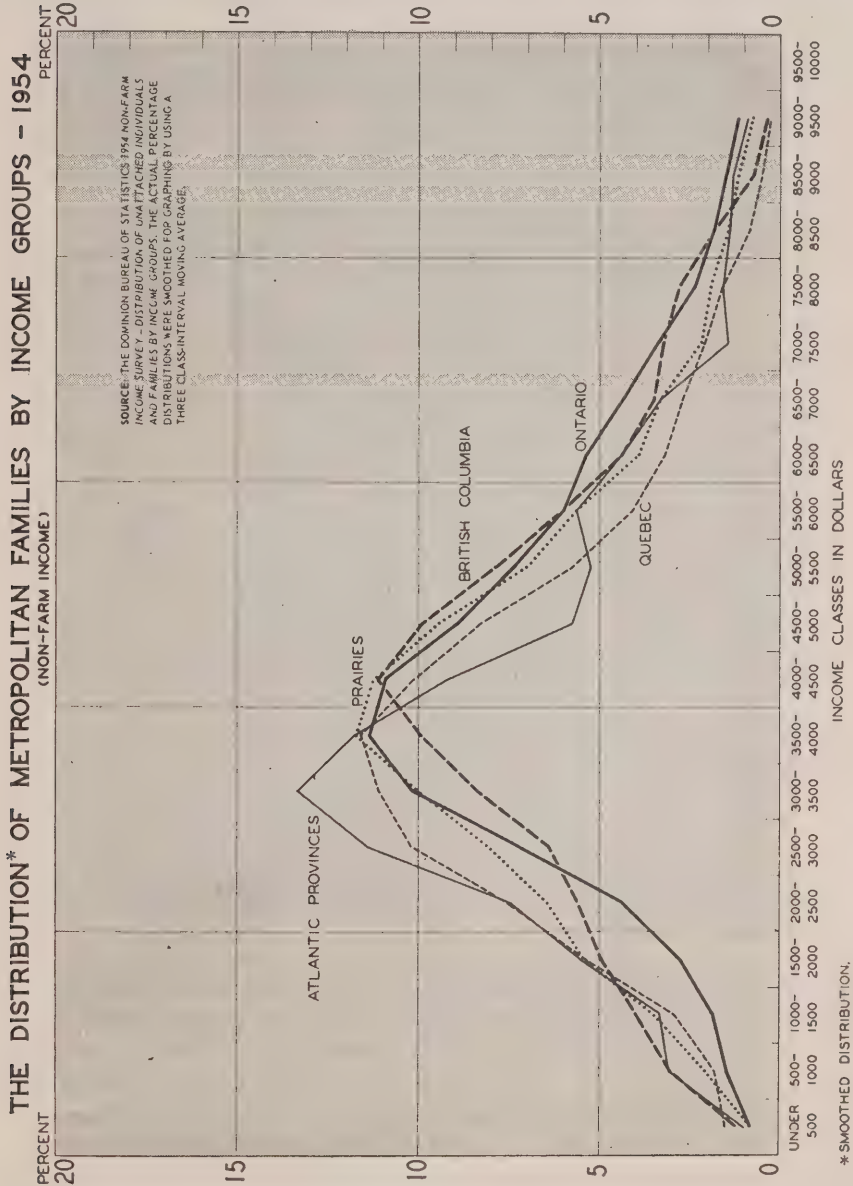
	Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.
Food.....	30.7	31.1	27.0	28.1	30.9	29.7	30.3
Tobacco and alcohol.....	7.8	11.3	9.2	8.8	8.9	9.7	9.9
Board and lodging.....	1.0	1.4	1.6	1.5	1.4	1.1	1.4
Clothing, personal furnishing and household supplies.....	21.6	15.8	16.3	17.8	15.6	17.7	16.8
Automobile ownership and operation.....	8.6	8.1	12.3	10.9	12.3	11.5	10.0
Durable goods ex. autos	5.0	6.3	7.2	7.4	5.4	7.1	6.9
Paid and imputed rent....	9.8	11.4	12.4	10.4	11.0	10.9	11.7
Fuel.....	5.4	4.3	4.9	4.6	4.8	3.4	4.0
Recreation.....	1.4	1.4	1.6	1.8	1.7	1.7	1.5
Education.....	.6	.7	.5	.9	.6	.5	.6
Life insurance.....	.9	1.3	1.4	1.1	.6	1.0	.9
Misc. merchandise.....	7.2	6.7	5.8	6.6	6.7	5.8	6.0
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

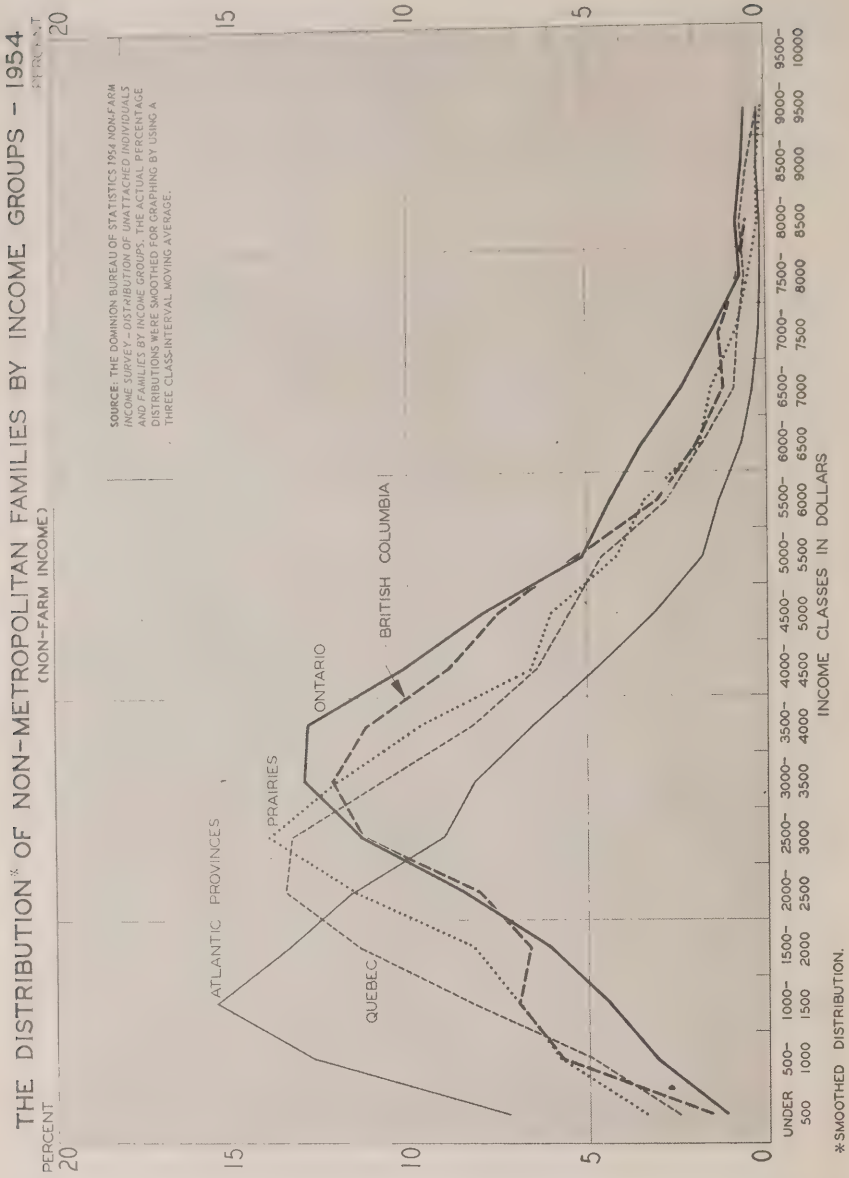
Information on comparative price levels on a regional basis is not readily available. The most detailed information that can be secured relates to metropolitan areas, and it would appear from this that although there are differences in prices in regard to particular items such as rents and foods, these differences tend to cancel one another out. It seems reasonable to conclude that the price level for the same basket of goods and services does not vary very much between metropolitan centres in Canada except in Newfoundland, where the level would appear to be some 10% higher.

The conclusion then, appears to be that, although income per capita figures cannot be summarily dismissed as an index of welfare, personal income per family averaged over a short period — say five years — is, on balance, more illuminating. Even these figures can be misleading, for they are average figures. A closer approximation is secured if average regional or provincial figures are broken down into certain categories, such as family incomes of those living in metropolitan areas, farm incomes and other more detailed family income groupings.

It is then evident that disparities in welfare between different regions in Canada are less than might be deduced from income per capita figures. A special sample survey of family incomes carried out by the Dominion Bureau of Statistics for the year 1954 indicates that there are smaller income differentials among regions covering families living in metropolitan centres. The farm income figures examined previously also show that the regional differences in incomes in respect of full-scale farms are less than the dif-

ferences indicated by average per capita figures. The pattern is somewhat different from that of average family income figures, but the levels of the figures for farm incomes would be slightly higher if adjustments were made to include government transfer payments. The logic of these facts suggests that the big factor in the disparities lies in the relative proportion of low-income families, with particular reference to small-scale farms and families





living outside metropolitan areas. It must be assumed that there are families with relatively low incomes in all the regions. It will be seen from the following charts that this is the case. It is evident from Chart IV, however, that there are proportionately more low-income families in the metropolitan areas of the Atlantic Provinces than of the other regions. Chart V shows that a larger part of the problem is in the non-metropolitan areas, for here there are proportionately many more low-income families in the Atlantic Region

than elsewhere in Canada. It will be seen that a somewhat similar, though less severe pattern obtains in the Province of Quebec. These figures exclude farming communities, but the study has already shown that farm incomes follow somewhat the same pattern in the Atlantic Provinces. It must be kept in mind that the accumulation of social capital in these low-income areas tends to be relatively smaller, with the result that the disparity in welfare in terms of social services and schools, in particular, is probably greater than suggested by the income figures.



## ECONOMIC GROWTH IN THE REGIONS

IT WILL BE appreciated from the foregoing observations that the Canadian economy is marked by great diversity and oft-times by sharp differences in regional economic activity. Many of these differences are obviously inherent in the very size of the nation and the variations in regional resources as these are combined with special features of topography, climate, proximity to markets, and other geographical factors. The distinctive features of the regions reflect in part the fact that Canada extends over half a continent. Regional diversity is, as it were, a "built-in" feature of the Canadian economy. This is perhaps the correct expression, for it implies that whereas physical factors are of primary significance, other factors also are involved — time, purpose and achievement. In fact, of course, these have been heavily involved in the creation of the Canadian economy, and inevitably this is reflected in the character of the regional economies — just as they reflect differences of historical background over long periods of settlement and development. Something of these special circumstances of the past lives on and is a vital element in the diversities of the Canadian regional economies; and the pattern and momentum of past growth must offer useful comment in any attempt to assess their future progress. It is proposed, therefore, to examine that pattern of growth before turning to the question of the future prospects of the regions.

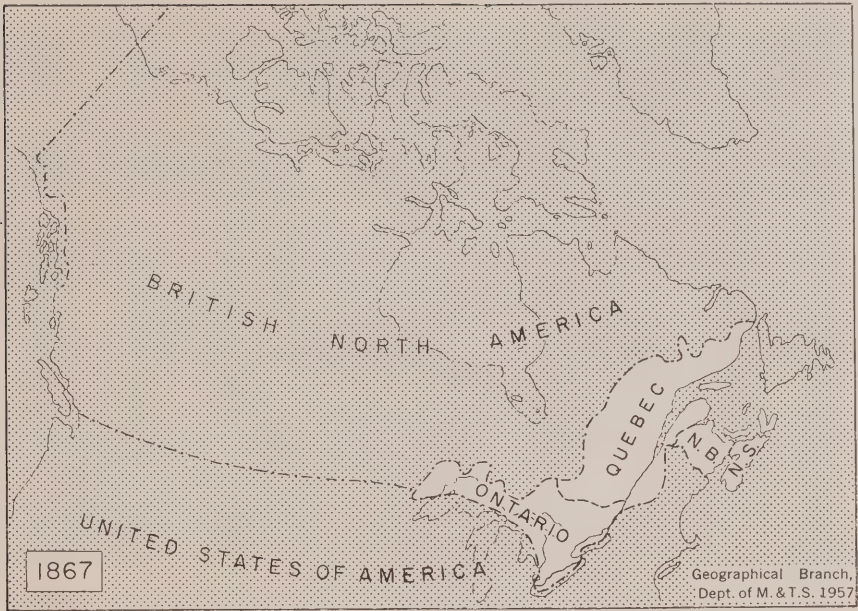
Much of the detail of this analysis covers the more recent years of Canadian development and is concentrated largely in the period 1926–56. This selection of dates was not a matter of choice but derives from the fact that for the years preceding 1926 there is little information on a number of subjects which are important in any study of the economic growth of the regions. More particularly, this is the first year for which personal income figures are available on a continuing basis. A period as brief as this is, of course, of limited significance. It is hardly long enough to establish trends and at the same time is too immediate to provide the perspective and objectivity sometimes achieved when events are seen from a distance. It is sufficiently long, however, to provide some indication of the momentum of

growth in the regions and, when considered against the general background of Canadian history, is useful in suggesting the direction of growth trends.

The early period of the colonization of the northern areas of the North American continent by the French and English is too familiar to require repeating here. Suffice it to say it contributed more than colour to Canadian economic history. The seigneurial system of land tenure, which marked the French settlements in those early years, is still apparent in the landscape of Quebec, and difference of cultural background still has some bearing on agriculture in the province. Again, it is necessary to refer back to this period for much of the explanation of regional differences in ownership of forest lands. In the Maritime Provinces, Crown grants of land were intimately associated with the English efforts to settle the area. A result is that a much greater proportion of the forest lands in this region are privately owned, and the subsequent divisions of these Crown-granted forest lands into smaller holdings has an important bearing on the developing use of the forest resources of the area. Of greater significance, perhaps, is the emphasis on certain economic practices which developed in this period. Much of the early exploration and settlement of the country grew out of a search for staple commodities — fish, furs, timber and agricultural products. These were the source of financial gain to those promoting exploration and settlement and of imported manufactures and further capital for those who remained on the Continent. Low costs at ports of call for foreign vessels were essential in such a pattern of activity and placed emphasis on low-cost transportation and low rates for commodities of this class. This emphasis persisted in the rate structure of Canadian transportation as railways were built and the country developed further.

Nor is it necessary to retrace the history of Canadian Confederation. It is, however, useful to recall that less than 100 years ago Canada consisted of a series of discontinuous areas of settlement called British North America, settlements which were almost completely separated economically, each confronted with problems that seemed almost insurmountable on the basis of provincial resources. In the circumstances of the time, Confederation was a move towards self-reliance and an act of faith in size. The Canadian economy was an idea before it was a reality and one which, in the achievement, appeared to fly in the face of geography and accepted economic principles. Something of the magnitude of that achievement is apparent from a glance at the accompanying maps, which depict the area of Canada in 1867 — at the time of Confederation — and in 1957.

Much of the early story of Canada's economic growth is related to this epic of geographical expansion and the problems of shaping the economic foundations of the country. Within relatively few years the physical framework and basic policies were established. Ownership of lands which now constitute Alberta and Saskatchewan and much of Manitoba, British Columbia and the Yukon and Northwest Territories had been secured in



1870, and within a brief period British Columbia, Prince Edward Island and Manitoba joined the charter members of Confederation — Nova Scotia, New Brunswick, Ontario and Quebec. There followed the first great period of railway building as the country was linked from the Atlantic to the Pacific. The advent of the Great Depression, which extended almost unrelieved from 1873 over some 20 years, seriously affected the confident hopes engendered by Confederation and slowed down the pace of economic development during that period. With world recovery, Canada experienced very strong growth in 1913. This was associated largely with the growth of the wheat areas of the Prairie Region. It was a period of mass migration to the Prairies, during which two new provinces — Saskatchewan and Alberta — were created and the boundaries of Manitoba were redefined. While millions of these settlers came from Europe with important additions from the United States, many tens of thousands were from the Maritimes and Ontario, and this tended to cement the unity which the wheat boom had engendered; for the prosperity of the West was reflected in central Canada and, to a limited extent, in the Maritime Provinces as the demands of the West for goods and services reached these areas.

Underlying this pattern was the triple policy of national development — a measure of protection for Canadian manufacturers, land grants and related settlement policies covering areas of western Canada, and the promotion of railway transportation. Purely economic criteria were largely put aside in this programme. The routes followed by railways were often dictated from national considerations rather than from commercial criteria, and the rate structure was shaped to facilitate the developments for which the nation hoped. Large areas of land in western Canada were conceded to the railways to encourage the construction programme and to secure the desired rate concessions. In practice, the change of emphasis in the tariff structure from revenue-raising to protection was supplementary to the policies of settlement and transportation. The change was designed to offset geographic factors and direct the trade of developing regions to Canadian channels, to make internal demand for goods and services as far as practicable a Canadian preserve, and to direct the flow of exports over national railways and through Canadian ports. These policies, administered with a fine sense of balance and some ingenuity, it was noted by the Sirois Commission, "have been both a consistent and essential influence in the attainment of national purposes". Supported by the wheat boom they provided, for the first 50 years, the basis of a growing political and economic cohesion despite the fact that regional growth, notably in the Maritime Provinces, was highly unequal over the period.

World War I, from an economic point of view, proved a useful stimulant to the Canadian economy. In 1913 the economy appeared to have faltered in its stride. The increased demand for raw materials and United Kingdom requirements for equipment brought favourable prices for primary products

and increased activity in Canadian centres of manufacturing. In particular, the war gave new importance to mineral deposits, which had been marginal under previous conditions. Moreover, it strengthened Canada's commercial ties with the United States as capital and technical knowledge were secured from that source under these emergency conditions. Thus a trend was constituted which grew in the next decade as other forms of resource development, the markets for which were largely in the United States, took precedence over increased wheat production as the mainspring of Canada's economic growth. All regions including the Maritimes felt these economic benefits of the war period. The impact, however, was of a more temporary nature in the Maritime Provinces, for this region did not share in any great degree in the development of new manufacturing establishments.<sup>1</sup>

In the '20's new dynamic factors became apparent in Canadian economic development. Although expanding wheat and grain production was a major element in the growth which reasserted itself after a brief recession following the war period, the national economy was highly characterized by new developments — innovations in the production of hydro-electric power, increased mineral production based on a new demand for alloys and for the low-cost hydro-electric power recently made available, an increasing demand for pulp and paper and the developing use of the internal combustion engine. The Prairie frontier continued to be settled at its more northerly fringes, but the Pre-Cambrian Shield now threatened to usurp its role as Canada's frontier. The relatively simple unity of interest based on wheat was rapidly modified in this period as British Columbia, Ontario and Quebec, the provinces most immediately affected, became engrossed with their own unique opportunities and problems. Once again the Maritime Provinces failed to share in any great degree in the forward thrust of the economy as a whole. Lacking the resources for the new dynamic elements of growth, the two industries which had prospered in the early period, coal mining and primary iron and steel, failed to provide the necessary substitute. Coal production did not readily recover from the effects of the war-time dislocation of markets, while the new emphasis on lighter steel products, sheet metal as compared with railway tracks, and disproportionate freight increases after 1912 severely restricted potential expansion of steel production.

Thus, 1926, the point at which it is proposed to examine regional economic growth in more detail, was within a period of expansion in all the regions, with the exception of the Maritime Provinces. It was a period of heavy capital investment directed particularly to the expansion of new forms of activity and affecting, in particular, the central provinces and British Columbia. It is apparent also that by 1926 regional disparities of growth had already developed. By this time, in fact, regional consciousness was beginning to reassert itself and to become much more apparent in national

<sup>1</sup> See Appendix G — "National Defence and Regional Development."

affairs than in the preceding period. The regions appear to have lost something of their sense of cohesion, in some instances from a new sense of strength and independence, in others from frustrated hopes of gaining new strength out of the unity of Confederation. The Maritime Region where progress, if any, had been slow, was more articulate in this, although it was hardly less apparent in the activities of the more prosperous regions; and it is interesting to recall that the Prairie Provinces supported the Maritimes in their search for redress. That year, 1926, it will be recalled, was the year the federal authorities appointed the Royal (Duncan) Commission to investigate the special problems of the Maritime Provinces. The report of the commission was followed immediately by statutory provisions under the Maritime Freight Rates Act for extensive readjustments of freight rates in the area. Within a relatively short time of this regional readjustment, it will be recalled, the Prairie Provinces themselves secured adjustments, chiefly in the form of control of their own natural resources.

There is some merit in referring to the period which the analysis covers as the one in which Canada came of age. It is true that it was not until 1949, when Newfoundland entered Confederation, that the process of territorial expansion was completed. But the nature of this event was so different that it cannot be compared with many of the earlier features of geographical extension. The period in question was one which covered a great variety of conditions and events and which suggests that the process of reaching maturity can be as difficult as the earlier stages of birth and adolescence.

The major events of the period were the depression which followed the prosperity of 1926-29 and characterized much of the '30's, World War II, adjustment to peace-time conditions and occupations, the renewal of heavy defence expenditures for the Korean conflict and subsequent defence preparations and, more recently, a phenomenal growth of demand for raw materials, notably mineral and forest products. It is extremely difficult to distill the essence of the many variants of policy which were adopted to bring Canada to a new maturity in these circumstances. It can be noted that the nation, possibly as a mark of its maturity, accepted new and heavy international responsibilities. As a result, the large capital and other expenditures required in the prosecution of World War II have continued on a relatively large scale over the subsequent period. Again, the more recent years of Canadian economic history have been marked by the growth of extensive measures of social welfare and social security in which the state has played a prominent role. It is in the nature of things that many problems have been met on an *ad hoc* basis, involving a modification rather than a change of earlier policies. Special adjustments were made to the tariff structure from time to time to effect a delicate balance between the welfare of exporting and that of manufacturing interests. Fiscal payments to the provinces were progressively adjusted to meet the special needs of the regions and to remove more serious

interregional disparities in personal income. Aid has been related more closely to fiscal need. From time to time railway freight charges were modified to lessen interregional differentials in transportation costs. In many instances special measures were taken to relieve the exceptional difficulties of industries and the areas in which they were located. Special aids have been given to encourage the development of new industries, notably those that are vital to the defence of the nation, and there have been important innovations in government participation in agricultural marketing and the provisions for currency management. Many of these measures appear to be a logical sequence of past policies, designed to keep the ship of state on an even keel rather than change its course. It is possible that this impression owes much to the high incidence of projects related to the improvement of transportation facilities in the resurgence of activity designed to give further encouragement to Canada's economic growth in more recent years — the St. Lawrence Seaway Project, the Trans-Canada Pipe Line, the Trans-Canada Highway and expanded sea and airport facilities.

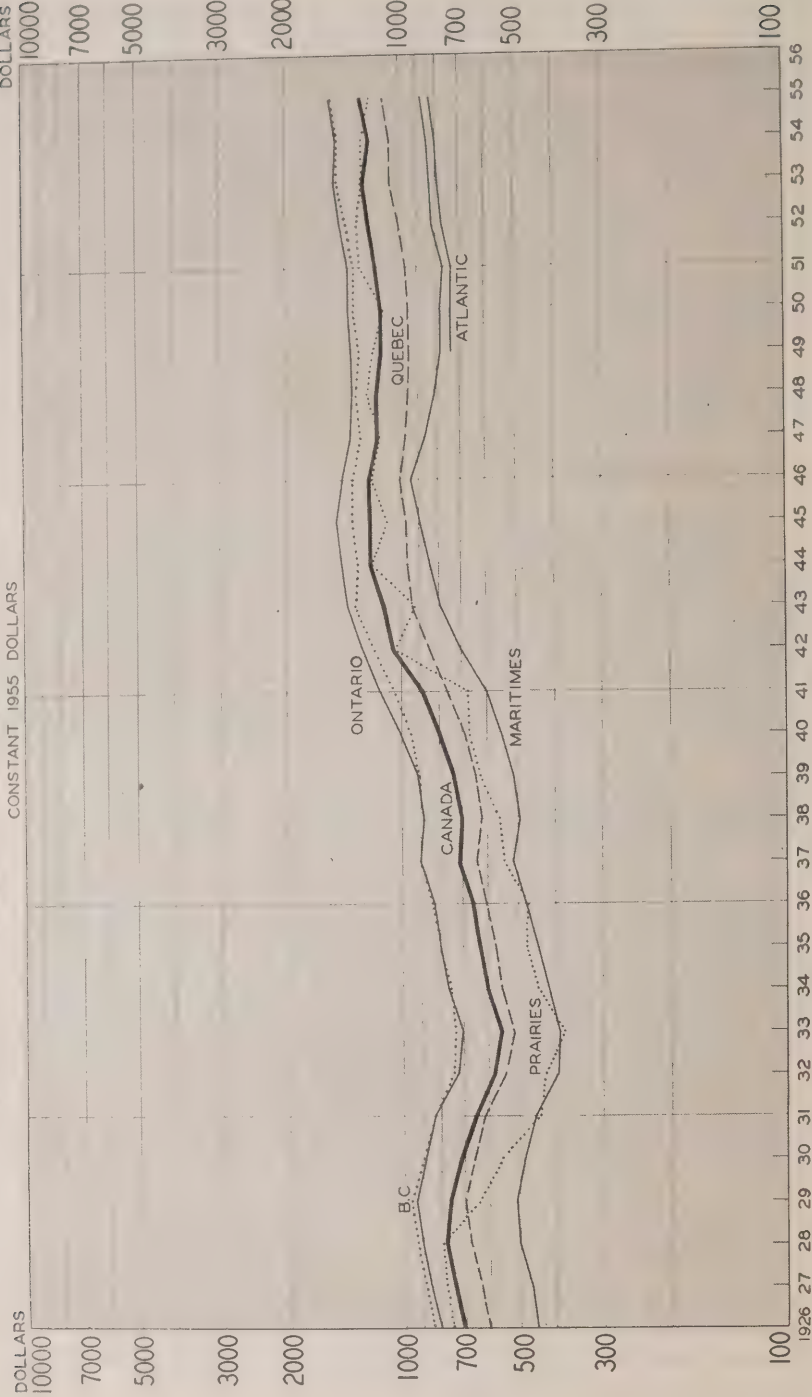
More recent events suggest a point of departure in regard to regional development. Not only has increasing attention been given to such questions, but the proposed measures appear to be of a more fundamental nature. If this is so, the departure is probably a reflection of growing confidence in the nation's financial ability to carry the burden of such expenditures, for there has long been general recognition that some regions have benefited more than others from policies which have proved conducive to the growth of the nation as a whole. It would appear possible from the analysis which follows that this departure may also be a reflection of encouragement to attack the remaining questions arising out of the fact that the process of growth has tended to reduce or isolate these problems.

These events and the policies which they have prompted, provincial as well as federal, form the background against which the story of regional economic growth unfolds. It is not possible at this time to attempt to measure the relative impact of these events or policies. It is not to be expected that they would equally affect the regions. In specific instances, in fact, policies were intended as special aids to particular regions. The analysis which follows is based on a rather uneasy assumption that there were no significant differences in the impact of policies on regional growth during the period concerned.

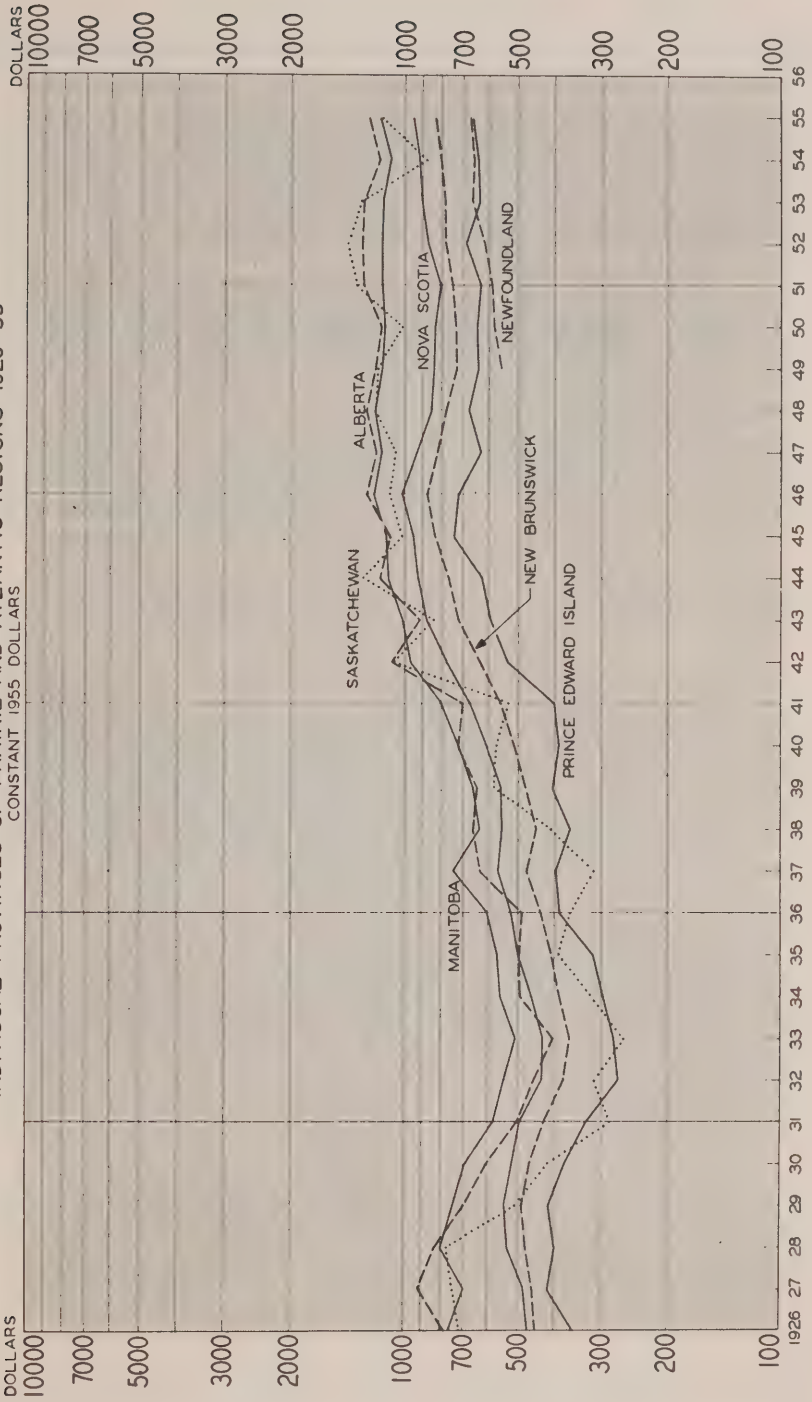
### *Personal Income*

Reference to the actual and relative levels of personal income per capita in the different regions was made in Chapter 1. In Charts VI and VII the historical trend of these incomes is traced over the period 1926-55. The figures are in constant 1955 dollars.

PERSONAL INCOME PER CAPITA BY REGIONS 1926-55



**PERSONAL INCOME PER CAPITA**  
**INDIVIDUAL PROVINCES OF PRAIRIE AND ATLANTIC REGIONS 1926-55**  
 CONSTANT 1955 DOLLARS



A most impressive feature of the record is the manner in which the regions have paralleled one another over the period. It is a record which strongly suggests that the original purpose of creating a unified economy has advanced to the point where there is considerable uniformity in regional reaction to national and international phenomena — the prosperity of the late 1920's, the depression of the '30's and the greatly increased activity of the war years, followed by a certain levelling off and a more recent acceleration.

It is readily apparent also that the Prairie Provinces have shown violent fluctuations over short periods. The depression, which seriously affected all the regions, coincided in the Prairie Provinces with severe drought conditions, particularly in Saskatchewan, where personal income per capita was reduced to a point below the Maritime level. With the end of the drought and the recovery of world prices, recuperation was quick and in later years spectacular, as mechanization was extensively applied to grain production. The record clearly shows, however, that the vagaries of weather and other crop-growing factors and of international grain markets still cause incomes to fluctuate widely in the Prairies over brief periods. Even on a five-year advancing average basis this is still apparent.

More careful study of the chart also shows that the Maritime Provinces made somewhat exceptional progress in personal income per capita during the latter period of World War II, a trend that continued into 1946 in that region. The delayed reaction appears, however, to have been somewhat more severe there than elsewhere in Canada until about 1950, when the trend in the Maritimes again became similar to that of the other regions.

Almost equally impressive is the fact that the chart shows little variation in the disparities of income among the regions over the period. Personal income per capita in Ontario has climbed somewhat faster than in British Columbia since 1933, and since 1939 it has maintained a slim leadership. Partly because the late '20's were very favourable and partly because of special wheat marketing problems encountered in very recent years, the Prairie Provinces appear to have slipped during the period from just above to just below the Canadian average position. But the persistence of the gaps between the regions remains an outstanding characteristic of the record, a persistence which naturally raises some important questions, including the significance of what appears to be a considerable rigidity in the labour market. This would seem to be of particular importance in regions where the gap is substantial and real incomes are significantly below those of other regions. The persistence of the gaps also raises questions as to the significance of income per capita figures as an index of welfare. In other words, the figures may exaggerate both rigidity and disparity in welfare. The question

of their welfare significance has already been discussed, and the question of mobility will be examined in greater detail in later pages of the report.

It is important, however, to interpret these trends in the context of recent economic developments in Canada. On all counts, economic expansion has been very substantial in Canada as a whole. It has been identified largely by rapid expansion in Ontario, British Columbia, Alberta and Quebec. In this context it is perhaps equally impressive to note that the income gaps between the regions have not widened. It is remarkable that, despite the fast pace set by some of the regions, income per capita in the other regions of the country has not lost ground.

These figures are of course *total* personal income figures, and it may prove worthwhile to examine the record more closely by analyzing the component parts of these total figures.

One very important fact emerges from such an examination, as will be seen from Tables 15 and 16, namely, that for Canada as a whole and in all the regions, growth in earned income is by far the biggest factor accounting for the increase in total income per capita.<sup>2</sup> Earned income, however, has declined slightly as a proportion of total personal income per capita in all instances, and has declined considerably in the case of the Maritime Provinces, British Columbia and the Prairie Provinces. In the later period earned income formed about the same proportion of total personal income in all the regions except British Columbia and the Maritime Provinces. In the Maritime Provinces the exception is more apparent. It will be seen that higher per capita receipts of interest and dividend payments have been a more important factor in the increase in total per capita income in British Columbia than in the other regions. The figure for the Prairie Region is also relatively high. Conversely, the figure for Quebec is very low. It will be noted that there are distinct differences between the provinces of the Maritime and those of the Prairie Regions. There has been no change in Manitoba's position, while increased receipt of interest and dividends has played a negative role in higher personal income per capita in Prince Edward Island. Table 16 shows that over the five-year period income from these sources has been a lesser proportion of total income per capita in the Maritime and Prairie Regions, notably in the Maritimes, than in the other regions. It was proportionately highest in Ontario, followed by British Columbia and Quebec.

<sup>2</sup> The average for the five-year period 1951-55 inclusive is used to eliminate the abnormalities of single years. The 1955 figures, for example, were badly distorted by exceptional payments under the Prairie Farm Assistance Act.

Table 15

PERCENTAGE OF THE INCREASE IN PERSONAL INCOME  
PER CAPITA REPRESENTED BY EACH COMPONENT,  
1926 AND AVERAGE 1951-55 INCLUSIVE  
(constant 1955 dollars)

	Earned income	Interest and dividends	Government transfer payments
MARITIME PROVINCES.....	69.2	4.5	22.8
Prince Edward Island.....	65.6	-3.1	31.3
Nova Scotia.....	68.7	5.0	19.9
New Brunswick.....	70.3	4.7	26.2
QUEBEC.....	80.9	2.8	19.1
ONTARIO.....	83.0	4.4	12.1
PRAIRIE PROVINCES.....	76.8	5.6	18.2
Manitoba.....	79.8	—	19.7
Saskatchewan.....	75.7	7.5	19.0
Alberta.....	75.6	7.2	17.1
BRITISH COLUMBIA.....	73.2	9.2	20.0

SOURCE: Calculated from *National Accounts, Income and Expenditure*.

The increase in government transfer payments over the period has not been equally important in the growth of personal income in the different regions. It was most important in the Maritime Provinces, where the increase in such payments accounted for nearly 23% of the increase in personal income per capita. It was of least importance in Ontario, where the increase in these payments was about half this proportion. Table 16 shows that over the average of the five-year period these government transfer payments formed a higher proportion of total income per capita in the Maritime Region than elsewhere. The Maritime Provinces were followed fairly closely by British Columbia, the position there being very close to that obtaining in Nova Scotia.

It is difficult to press any analysis of government transfer payments very far. The figures cover both provincial and federal government payments and they are not completely reconcilable statistically. The general increase in these payments and the differences in the regional increases are some gauge of the growth of welfare provisions over the period and of different regional emphases in this regard. Thus the total transfer payments for British Columbia and Saskatchewan reflect in part special hospital arrangements in these provinces. As there are wide variations in the level of provincial government payments as well as in the services they represent,

Table 16

PERCENTAGE OF TOTAL PERSONAL INCOME PER CAPITA REPRESENTED BY EACH COMPONENT  
1926 AND AVERAGE 1951-55 INCLUSIVE  
(constant 1955 dollars)

	Earned income		Interest and dividends		Government transfer payments	
	1926	Av. 1951-55	1925	Av. 1951-55	1926	Av. 1951-55
MARITIME PROVINCES.....	88.0	79.5	10.4	7.7	2.2	11.6
Prince Edward Island.....	84.0	75.7	16.0	7.4	—	14.2
Nova Scotia.....	88.1	78.9	10.0	7.7	2.6	10.7
New Brunswick.....	88.6	80.7	10.1	7.8	1.8	12.3
QUEBEC.....	84.6	83.1	14.2	9.4	1.0	8.6
ONTARIO.....	83.4	83.3	14.8	10.2	1.9	6.4
PRAIRIE PROVINCES.....	87.7	83.5	10.4	8.6	1.9	8.1
Manitoba.....	85.4	83.5	12.8	8.5	2.1	8.0
Saskatchewan.....	88.6	83.2	9.7	8.8	1.4	8.7
Alberta.....	89.0	83.9	9.2	8.4	2.0	7.7
BRITISH COLUMBIA.....	87.4	81.7	9.7	9.5	3.7	10.4

SOURCE: Calculated from *National Accounts, Income and Expenditure*.

Table 17

## GOVERNMENT TRANSFER PAYMENTS, PER CAPITA 1926 AND AVERAGE 1951-55 INCLUSIVE

	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Maritime Provinces	1926			Average 1951-55 inclusive			Saskatchewan	Manitoba	Alberta	Prairie Provinces	British Columbia
	\$	\$	\$	\$	\$	Quebec	Ontario	\$	\$	\$	\$					
Pensions to federal employees	—	0.23	0.31	0.27	0.28	0.29	0.54	0.23	0.09	0.29	0.19	0.78	—	—	—	—
War pensions and war veterans allowances	—	1.68	4.30	2.94	3.53	1.15	4.27	5.26	2.40	4.43	3.88	8.14	—	—	—	—
Miscellaneous — federal	—	0.10	0.28	0.21	0.24	0.14	0.39	0.41	0.24	0.38	0.33	0.81	—	—	—	—
Total federal transfer payments	—	2.01	4.88	3.42	4.05	1.58	5.20	5.90	2.73	5.11	4.41	9.74	—	—	—	—
Family allowances	29.04	24.49	25.11	27.19	25.92	25.84	21.08	22.00	23.51	23.69	23.11	20.94	—	—	—	—
War service gratuities	—	0.12	0.12	0.11	0.12	0.05	0.11	0.13	0.13	0.10	0.12	0.10	—	—	—	—
Re-establishment credits	0.32	0.37	0.59	0.49	0.53	0.21	0.58	0.63	0.40	0.55	0.52	0.68	—	—	—	—
Rehabilitation benefits	0.02	0.24	0.45	0.18	0.46	0.12	0.29	0.36	0.30	0.48	0.39	0.43	—	—	—	—
Unemployment Insurance	11.96	8.73	12.09	13.84	12.55	12.98	10.14	9.37	4.90	7.26	7.14	15.37	—	—	—	—
War pensions	2.07	11.68	10.67	8.46	9.84	2.84	8.89	12.03	6.23	7.87	8.60	13.95	—	—	—	—
War veterans allowances	1.97	4.80	3.26	3.00	3.28	0.79	2.10	3.00	1.70	1.92	2.18	5.45	—	—	—	—
Prairie Farm Assistance Act	—	—	—	—	—	—	—	1.65	7.38	2.77	3.92	0.06	—	—	—	—
Pensions to federal employees	0.28	1.26	1.39	1.17	1.29	1.06	2.24	1.32	0.62	1.00	0.98	2.90	—	—	—	—
Old age pensions — federal	15.08	24.75	21.40	18.89	20.63	13.57	20.63	19.95	18.92	16.26	18.23	25.69	—	—	—	—
Miscellaneous — federal	28.56	35.68	35.37	34.74	35.14	27.16	31.36	32.26	26.72	28.00	28.88	40.51	—	—	—	—
Total federal transfer payments	62.21	78.29	76.91	75.11	76.28	58.84	67.65	72.14	65.90	63.42	66.86	87.63	—	—	—	—

SOURCE: Calculated from Dominion Bureau of Statistics data.

Table 18

**FEDERAL GOVERNMENT TRANSFER PAYMENTS AS A PERCENTAGE OF  
TOTAL GOVERNMENT TRANSFER PAYMENTS**  
*(average 1951-55 inclusive)*

	New- found- land	Prince Edward Island	Nova Scotia	New Brunswick	Mari- time Prov- inces	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	Prairie Prov- inces	British Colum- bia
Total per capita payments in dollars.....	88.69	92.31	94.42	96.53	95.12	89.18	93.06	90.39	105.74	96.49	97.61	146.01
Federal payments per capita in dollars.....	62.21	78.29	76.91	75.11	76.28	58.84	67.65	72.14	65.90	63.42	66.86	87.63
Federal payments as a percentage of total.....	70.1	84.8	81.5	77.8	80.2	66.0	72.7	79.8	62.3	65.7	68.5	60.0

SOURCE: Calculated from statistics supplied by the Dominion Bureau of Statistics.

it would seem to be desirable to determine the extent and relative importance of federal government transfer payments, for where the increase has accrued to a relatively greater extent from this service, the foundations of personal income might appear to be somewhat less sound as a base from which to assess potential future growth.<sup>3</sup>

Table 17 shows federal government transfer payments to the provinces in 1926 and in the average of the period 1951-55 inclusive. Table 18 indicates the percentage which these form of total government transfer payments in the different regions. In any consideration of these payments it is necessary to distinguish between the different forms of payments. In some cases, such as Unemployment Insurance and the Prairie Farm Assistance Act, the funds are of a contributory nature. In others they are clear-cut payments from federal revenues. It is readily apparent from the tables that the incidence of these federal transfer payments is not equal among the regions. The figures, in fact, cast some interesting sidelights on the regions. The high figures for total federal transfer payments to British Columbia, for example, obviously reflect the attraction of the province for those of retirement age, although Unemployment Insurance benefit payments were relatively high for British Columbia over this period. The special payments under the Prairie Farm Assistance Act covering the Prairie Provinces and the somewhat greater importance of Family Allowance payments in Quebec and the Atlantic Provinces are indications of somewhat unique regional characteristics. At this juncture it should be noted that federal transfer payments were a much larger proportion of total government transfer payments and that, after allowance for the many factors affecting the significance of these figures, it remains that federal government transfer payments have played a much more significant role in the growth of personal income per capita in the Maritime Provinces than elsewhere. The positions of Manitoba and Newfoundland are somewhat unique in their respective regions. Federal government transfer payments in Manitoba are a relatively more important factor of total personal income than elsewhere in the Prairie Region and less so in Newfoundland than in the other Atlantic provinces.

For Canada as a whole, earned income per member of the labour force has more than doubled, even after allowance is made for the changing value of the dollar. Over the period British Columbia, the Prairie Provinces in particular, and the Maritime Provinces appear to have achieved significantly greater rates of increase than other parts of Canada. The exceptional rate of growth in earned income per member of the labour force for the Prairie Provinces over the period 1931-55 reflects the very low base which the 1931 figure represents in the Prairie Region. However, the exceptional growth in earned income per member of the labour force in the region is apparent

<sup>3</sup> Federal government transfer payments should not be confused with federal aid to the region, which is a much broader subject. The figures here cover payments to persons and include payments under contributory schemes, such as Unemployment Insurance. They exclude numerous sums paid in different forms of assistance.

in the 1941-55 figures. The position of the region is clearly very strong, the growth reflecting essentially not only its improved agricultural position but also, in part, the beginning of the new industrial complex associated with its oil, gas and other mineral developments. It is also interesting to note that the Maritime Provinces maintain a fairly strong position over the shorter 1941-55 period. It must be recalled that this increase in earned income per member of the labour force has been coincidental with a considerable reduction in working hours and improvements in working conditions and other welfare benefits for many of the working force.

Table 19

**EARNED INCOME PER MEMBER OF THE LABOUR FORCE  
IN SELECTED YEARS, 1931-55, SHOWING  
PERCENTAGE INCREASE 1931-55 AND 1941-55  
(constant 1955 dollars)**

	\$ 1931	\$ 1941	\$ 1946	\$ 1951	\$ 1955	% increase 1931-55	% increase 1941-55
Maritime Provinces...	1,089	1,455	1,924	1,875	2,203	102.3	51.4
Quebec.....	1,414	1,782	2,177	2,255	2,555	80.7	43.4
Ontario.....	1,683	2,307	2,594	2,841	3,156	87.5	36.8
Prairie Provinces.....	911	1,506	2,197	2,906	2,716	198.1	80.3
British Columbia.....	1,610	2,316	2,568	2,939	3,498	117.3	51.0
Canada.....	1,377	1,919	2,339	2,651	2,844	106.5	48.2

SOURCE: Calculated from *National Accounts, Income and Expenditure*; the *Census of Canada*, 1931, 1941 and 1951; *The Labour Force*, June 1946 and June 1955.

These observations on growth in personal income have been based on per capita figures, and there is, consequently, an implicit neglect of data on population changes. There may be no necessary relationship between improved economic welfare and population growth, but population changes offer instructive insight into the growth pattern of the regions and may be somewhat indicative of the relative strength and momentum of that growth.

### *Population*

It is readily apparent from the census data that the rate of population growth has varied considerably among the regions. It will be seen from the respective charts that population growth by regions does not correspond to the growth of income per capita.

Over the long period since Confederation, the growth of population in the Maritime Provinces has been slow in relation to its growth in the other provinces that entered Confederation at the same time, and until more recent times the story of Canada's population growth had to do largely with the settlement of areas of territorial expansion — notably with the western regions — and the consolidation of the economy as a unit,

achieved largely through the expansion of manufacturing in the central provinces.

During 1931-55, the period for which the census data approximate the one covered in the examination of income figures, population gains were registered in all provinces with the exception of Saskatchewan. In that province the population remained relatively stable for nearly a decade and a half from 1934 and registered an absolute decline for a brief period in the 1940's. The latter period saw a great advance in Prairie agricultural productivity arising out of increased mechanization and a growth in the unit size of farms in grain production. On a regional basis, the Prairie Region, reflecting largely the losses of Saskatchewan, has shown the lowest percentage rate of increase. On this basis British Columbia nearly doubled its population in the period, showing particularly strong growth during the decade commencing in the early 1940's. Both Ontario and Quebec showed gains of more than 50% of their 1931 populations as compared with a 20% increase for the Prairie Region and one of some 33% for the Maritime Provinces. It is a feature of the chart that the trends are somewhat parallel in Ontario, Quebec and British Columbia; but the Prairie Region and the Maritime Region have clearly shown considerably slower growth rates.

As a result of these differing rates of population gains, the proportion of Canada's population represented by the regions has changed over the period. Thus by ten-year intervals from 1931 to 1955 the regional and provincial percentages of Canada's total population were as shown in Table 20.

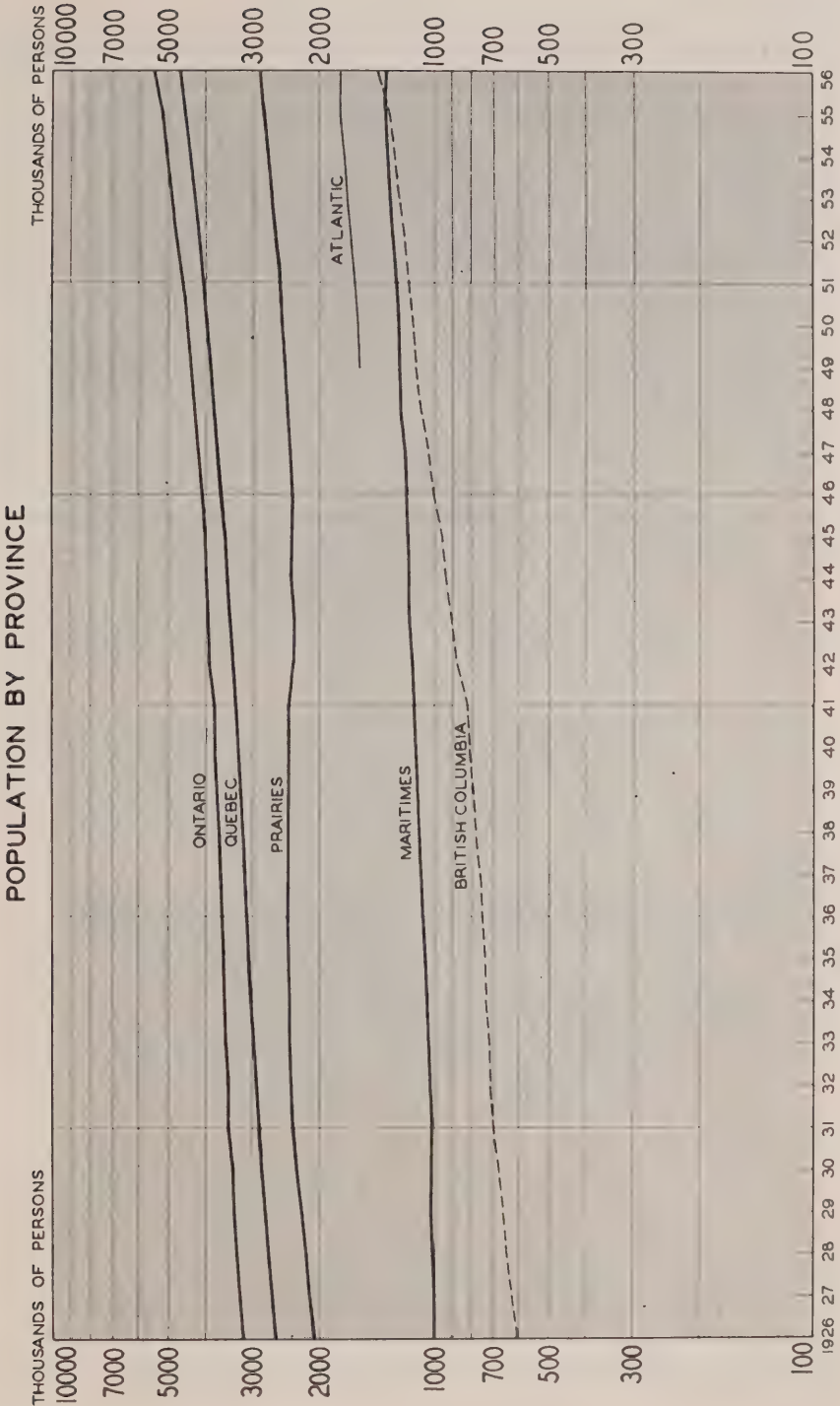
Table 20

### REGIONAL POPULATION AS A PERCENTAGE OF CANADA'S POPULATION, 1931-55

Region	1931	1941	1951	1955
MARITIME PROVINCES.....	9.7	9.8	9.0	8.7
Prince Edward Island.....	0.9	0.8	0.7	0.7
Nova Scotia.....	4.9	5.0	4.6	4.4
New Brunswick.....	3.9	4.0	3.7	3.6
QUEBEC.....	27.7	29.0	29.0	29.0
ONTARIO.....	33.1	32.9	32.8	33.2
PRAIRIE PROVINCES.....	22.7	21.0	18.2	18.0
Manitoba.....	6.7	6.3	5.6	5.5
Saskatchewan.....	8.9	7.8	5.9	5.7
Alberta.....	7.1	6.9	6.7	6.8
BRITISH COLUMBIA.....	6.7	7.1	8.3	8.4
CANADA (a).....	100.0	100.0	100.0	100.0

(a) The Canada figures include the Yukon and the Northwest Territories for all years, and Newfoundland as well for 1951 and 1955. The figures, therefore, do not add up to 100%.

SOURCE: See Chart IV and V.



There are interesting and informative differences in the sources of these population gains. The Province of Quebec and the Maritime Provinces have tended to make their gains from the natural increase of their own populations. Characteristically, again, Ontario and British Columbia have shown a stronger attraction for immigrants, thus tending to strengthen the percentage of their population in the working-force age-group, 14 to 65 years of age. This tendency, which is apparent in the age-grouping of the Ontario population, has served to offset in part a higher incidence of older people in the population of British Columbia arising out of the abnormal attraction of that province for those of retirement age. British Columbia, Ontario and Quebec have all gained population from the Prairie Provinces or the Maritime Provinces. Net migration to British Columbia, the excess of the number of people moving into the province over the number leaving it, amounted, over the period 1931-55, to over 54% of the provincial population of 1931. The comparable figure for Ontario was just over 17% but was less than 2% for Quebec. The Maritime Provinces, over the period, made a net contribution of some 135,000, or just under 14% of their 1931 population. The big contributor was the Prairie Region, with a net contribution of over half a million people, or over 20% of the regional population of 1931. It will be seen from the figures in Table 21 that Saskatchewan registered, by far, the largest net emigration. The Province of Alberta registered only a very small loss over the period.

If the shorter period 1951-55 is reviewed, it would appear that the Prairie Region as a whole is tending to lose its role as a net contributor of population to the other regions. In these years it actually gained population from the other regions of Canada. Saskatchewan continued to register a net loss, but on a greatly reduced scale. Alberta, on the other hand, registered a considerable net gain, over 35,000 people entering it from other provinces, including other Prairie Provinces. The Maritime Provinces showed signs of enlarging their net losses, the contribution being made equally on a provincial basis by Nova Scotia and New Brunswick. Prince Edward Island and Newfoundland appear to have registered net migration gains. British Columbia and Ontario continue to demonstrate strong gains from net migration from other areas of Canada. The immigration figures confirm the strong population growth tendencies of Ontario and British Columbia and indicate a growing strength in Quebec and Alberta.

### *The Labour Force*

The rate of growth of the labour force in the regions differs considerably from the rate of population growth. The two rates correspond more closely in Ontario, Quebec and British Columbia than in the Prairie and Maritime Regions. It will be seen that in Ontario, over the longer period, the rate of growth of the labour force has been higher than that of population. Over the period as a whole, the rate of increase has been lowest in the Prairie Region. Over the shorter period the Maritimes have registered a negative rate of increase.

Table 21

### NET MIGRATION OF POPULATION BY REGIONS, 1931-55 AND 1951-55

	Net migration 1931-55	Net migration as a percentage of 1931 population	Net migration 1951-55	Net migration as a percentage of 1951 population
ATLANTIC PROVINCES.....	—	—	-17,990	-1.1
MARITIME PROVINCES.....	-135,115	-13.4	- 28,159	-2.2
Newfoundland.....	—	—	10,169	2.8
Prince Edward Island.....	- 14,523	-16.5	2,963	3.0
Nova Scotia.....	- 53,876	-10.5	- 17,277	-2.7
New Brunswick.....	- 66,716	-16.4	- 13,845	-2.7
QUEBEC.....	40,358	1.4	80,287	2.0
ONTARIO.....	591,395	17.2	290,560	6.3
PRAIRIE PROVINCES	-485,642	-20.6	14,457	0.6
Manitoba.....	- 99,934	-14.3	8,453	1.1
Saskatchewan.....	-369,295	-40.1	- 29,102	-3.4
Alberta.....	- 16,413	- 2.2	35,106	3.7
BRITISH COLUMBIA	377,506	54.4	72,874	6.3
CANADA.....	388,502	3.7	440,188	3.1

SOURCE: Calculated from *Vital Statistics*, 1953, D.B.S., and Dominion Bureau of Statistics data.

Table 22

### PERCENTAGE RATE OF GROWTH OF THE POPULATION AND THE LABOUR FORCE BY REGIONS, 1931-55 AND 1946-55

	1931-55		1946-55	
	Population %	Labour force %	Population %	Labour force %
Maritime Provinces.....	33.7	18.8	14.3	-0.7
Quebec.....	57.3	55.2	24.6	18.6
Ontario.....	51.0	52.2	26.6	19.7
Prairie Provinces.....	19.1	10.8	18.7	1.0
British Columbia.....	88.0	50.2	30.1	12.2
Canada.....	50.4	43.2	26.9	15.4

SOURCES: Calculated from the *Census of Canada*, 1931, and *The Labour Force*, June 1946 and June 1955.

A number of factors underlie these divergent rates of growth. As noted previously, where population growth is associated with immigration, it tends to strengthen the ratio of those of working-force age in relation to total population. Ontario and British Columbia have drawn more heavily

than the other regions on this source of population growth. Conversely, there is a tendency for the ratio of the labour force to total population to be weakened in the regions where there is net emigration, as in the instance of the Prairie and Maritime Regions. The regional labour force represents, of course, the number of people in the region who consider themselves to be part of the working force, and the rate of growth of the labour force may reflect a change in the participation rate, or the percentage of the population of the appropriate age-group who choose to identify themselves with the labour force by working or by seeking work. The participation rate is usually higher where economic activity is at a high level and where the economy is sufficiently diversified to offer attractive employment opportunities for females. The labour force participation rates for the regions in 1931, 1951 and 1955 are set out in Table 23. It will be seen from these that the participation rate in 1955 was exceptionally high in Ontario and exceptionally low in the Maritime Provinces. Over the period, the rate was very constant in Quebec, at about the average rate for Canada as a whole. The Maritime Provinces, the Prairie Provinces and British Columbia all show a decline in the rate of participation, the decline in the latter instance being from an exceptionally high rate to one just below the national average.

Table 23

### LABOUR PARTICIPATION RATE BY REGIONS, 1931, 1951 AND 1955

	1931	1951	1955
MARITIME PROVINCES.....	51.0	49.7	48.6
Prince Edward Island.....	52.0	50.6	—
Nova Scotia.....	50.7	49.7	—
New Brunswick.....	51.2	49.6	—
QUEBEC.....	53.4	53.4	53.4
ONTARIO.....	53.1	55.1	56.2
PRAIRIE PROVINCES.....	55.2	52.4	52.4
Manitoba.....	54.4	52.9	—
Saskatchewan.....	54.9	51.2	—
Alberta.....	56.3	53.1	—
BRITISH COLUMBIA.....	57.2	50.8	50.8
CANADA (a).....	53.7	53.3	53.6

(a) Excluding Newfoundland.

SOURCE: Calculated from the *Census of Canada*, 1931 and 1951, and *The Labour Force*, June 1955.

It should be noted that the foregoing remarks apply to the quantitative changes in the labour force of the regions. An important feature of the labour force, of course, consists of the acquisition of skills. It is in the nature of things that there has been a relatively greater acquisition of new skills

in the regions which have experienced the greater diversity and momentum of industrial activity. As noted elsewhere, the war period was a particularly important one for the introduction of new skills as a by-product of Canada's large industrial effort in support of military activities. This trend has continued in the postwar years as the pace of development of secondary manufacturing in Canada has assumed even greater proportions. On the other hand, the acquisition of new skills is greatly facilitated by the educational background of the working force. The Commission, in its *Preliminary Report*, recognized the importance of education and made particular reference to university training. It is generally recognized that the problem is not confined to higher levels of education and it is one of the disturbing features of the educational background of the Canadian labour force that there is a considerable difference in the standards achieved in different parts of the country.

Table 24

**EDUCATIONAL LEVEL OF THE LABOUR FORCE BY PROVINCES AND  
REGIONS: PERCENTAGE OF LABOUR FORCE WITH  
VARYING YEARS OF SCHOOLING, 1951**

	Years of schooling			
	0-4 %	5-8 %	9-12 %	13+ %
ATLANTIC PROVINCES.....	13.3	43.5	37.3	6.0
MARITIME PROVINCES.....	10.1	44.1	39.2	6.5
Newfoundland.....	25.7	41.0	29.7	3.6
Prince Edward Island.....	5.8	50.2	38.3	5.7
Nova Scotia.....	8.1	40.6	43.8	7.5
New Brunswick.....	13.7	47.5	33.3	5.4
QUEBEC.....	8.0	51.6	32.2	8.2
ONTARIO.....	4.6	40.4	41.5	13.4
PRAIRIE PROVINCES.....	8.4	41.0	42.0	8.5
Manitoba.....	8.9	39.7	43.4	8.0
Saskatchewan.....	9.6	45.7	36.9	7.8
Alberta.....	7.2	38.0	45.1	9.6
BRITISH COLUMBIA.....	4.8	31.9	51.0	12.3
CANADA.....	7.1	43.2	39.4	10.3

SOURCE: Calculated from the *Census of Canada, 1951*.

### ***Industrial Activity***

It is not possible to pursue the personal income figures and ascertain from them the various forms of economic growth and change which have underlain the pattern of income growth. There is no adequate series of data for such an exercise. However, the value-of-production series provides some information on the development of industries engaged in the production of commodities, and the labour force data provide some statistical background of

a more comprehensive nature. A collation of capital investment figures also provides a useful source of information on economic growth that has occurred in the regions in more recent years.<sup>4</sup>

Some interesting data in regional growth in gross value of commodity output appear in Appendices A, B and C. When these and other data are analyzed it is apparent that the signs of growth are quite similar, if not equal, in the different regions. In all the regions there has been a substantial growth in the relative significance of what are generally termed the tertiary or service industries. There has been a strong trend toward urban living in all the regions. With the exception of British Columbia, there has been a decline in the relative importance of the agricultural products industry in the regional economies. These factors suggest something of a pattern in regional growth.

The most significant feature of the growth pattern, however, is the relatively greater importance of growth in secondary manufacturing in the central provinces — Ontario and Quebec — and the correspondingly greater importance of growth in the resource industries in the other regions. This is clearly shown in Table 25, which indicates the relative importance of secondary manufacturing and the resource industries in the regional gains in the output of these two categories.

Table 25

THE PERCENTAGE OF THE REGIONAL INCREASE IN GROSS VALUE  
OF PRODUCTION IN THE RESOURCE INDUSTRIES AND  
SECONDARY MANUFACTURING REPRESENTED BY THE  
INCREASE IN EACH CATEGORY, 1926-53

	Resource industries	Secondary manufacturing
	%	%
Maritime Provinces.....	69.0	31.0
Quebec.....	40.5	59.5
Ontario.....	28.5	71.5
Prairie Provinces.....	70.7	29.3
British Columbia.....	74.7	25.3
Canada.....	43.2	56.8

SOURCE: Calculated from D.B.S. bulletins — *General Review of the Mining Industry, 1953; Estimates of Forest Production, 1945 and 1953; Fisheries Statistics, 1926 and 1953; Handbook of Agricultural Statistics, 1952, and Farm Net Income, 1954* — and D.B.S. schedules on mining and manufacturing.

<sup>4</sup> Unfortunately net-value-of-production figures are not available over the whole period for some sectors of the economy, and gross-value-of-production figures have had to suffice. Again, the employment figures in many instances are somewhat nebulous in the earlier part of the period and present difficulties in a number of occupations, notably primary resource occupations, where dual or combination occupations, such as farming, fishing, logging and labouring, for example, are highly prevalent. It is also very difficult to separate inflation from expansion of activity in the value of production figures. Although there are some indices of physical volume of production, they are not available in all instances on a regional basis and cannot be brought to bear equally between industries on the aggregate figures in order to correct them for inflation. In view of these factors, the method adopted is to measure development on a relative basis. There are obvious weaknesses in such a procedure, associated in particular with an implicit assumption that price increases have been approximately equal over the length and breadth of the country and covering a wide range of commodities. Where possible, allowance is made where the magnitude of difference is known and considered to be of significance in an interpretation of the figures. Generally speaking, however, the weakness is met by not pressing the figures into service unless the margins are sufficient to allow for considerable statistical error arising out of this and other special factors.

It is clear that there has been a strong trend over the period toward the concentration of secondary manufacturing in central Canada. The relatively greater participation of the other regions in the growth of activity in the resource industries is characterized by a marked expansion in processing as distinct from increased primary resource operations — an increase in fish processing, for example, as distinct from catching operations. It will be appreciated that normally the resource industries are somewhat more capital-intensive than the secondary manufacturing industry. Inasmuch as the emphasis in the growth pattern of the outlying regions has been in these industries, it is to be expected that there would be a relatively slower rate of growth of population and of the labour force in these areas. A growth of population and labour force corresponding to that of the central regions would require an exceptional rate of economic expansion or the existence of special circumstances, a rigidity in the labour market or special attraction for people with other sources of income. These remarks are supported and somewhat enlarged upon in a subsequent part of this study.

Before examining the growth in gross value of commodity output in the different regions, it is proposed to review the historical data from several points of view. In the first place, the figures are used to determine the extent to which the regions have contributed to the increase in national output of different commodities. In the second place, the regional rate of increase in value of output of these commodities is compared with the national rate of increase. Thirdly, variations in growth between different industries within the regions are analyzed.

Table 26 shows the proportions contributed by the various regions to the national increase that took place over the period 1926–53, in the gross value of production of each of a number of different commodities.

The feature of the total figures is, of course, the very large proportion of Canada's gain in the gross value of production of the resource industries and secondary manufacturing which came from expansion of output in Ontario. The central provinces again accounted for over 85% of the national increase in the gross value of production of secondary manufacturing, with Ontario making the larger contribution to the increase. It will be noted also that the outlying regions make a substantially greater contribution to the increase in national output in the resource industries than in secondary manufacturing. This is the reverse of the situation obtaining in the case of Ontario and Quebec.

A somewhat different appreciation of regional growth over the period may be reached by comparing the rates of increase in the gross value of production for the different industries of the regions and relating these to the Canadian average rate of increase. The figures are computed in this way in Table 27. These figures should, of course, be considered in conjunction with the preceding data; for percentage gains can be misleading unless

Table 26

REGIONAL INCREASE IN THE GROSS VALUE OF PRODUCTION IN THE RESOURCE INDUSTRIES AND  
SECONDARY MANUFACTURING AS A PERCENTAGE OF THE NATIONAL INCREASE IN  
PRODUCTION IN THESE INDUSTRIES, 1926-53

	Forest products	Mining and mineral processing	Fisheries products	Agri- cultural products	Residual primary products	Total resource industries	Secondary manu- facturing	Total resource industries and secondary manufacturing
Maritime Provinces.....	8.8	4.6	47.9	3.7	3.3	6.3	2.2	4.0
Quebec.....	35.0	34.2	3.4	20.5	34.8	27.5	30.6	29.3
Ontario.....	22.0	35.4	2.6	32.1	43.4	29.6	56.6	44.9
Prairie Provinces.....	4.4	16.4	2.0	37.6	-0.2	22.0	6.9	13.4
British Columbia.....	29.8	9.4	44.1	6.1	18.7	14.6	3.7	8.4
Canada.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: See Table 25.

carefully related to the base from which the gains are registered. A high percentage gain may reflect a relatively new development rather than its immediate force in the regional economy. This is apparent, for example, in the forest products column for the Prairie Provinces. Again, one industrial sector of the regional economy may show a big percentage increase, but this gain may be related to a relatively slow growth in Canada as a whole. The effect in such instances would be to overshadow highly significant growth in other sectors in the regional economy. Reference, therefore, should be had to the rate of increase which is the basis of the index figure appearing at the foot of the table.

Table 27

**REGIONAL PERCENTAGE INCREASE IN GROSS VALUE OF  
PRODUCTION BY INDUSTRIES EXPRESSED AS A RELATIVE  
OF THE NATIONAL PERCENTAGE RATE OF INCREASE, 1926-53**

	Forest products	Mining and mineral processing	Fisheries products	Agri- cultural products	Secondary manu- facturing
Maritime Provinces	95.9	29.1	145.4	81.9	50.3
Quebec.....	100.7	296.3	79.2	144.7	100.2
Ontario.....	67.9	114.3	76.5	89.5	102.1
Prairie Provinces.....	159.6	135.3	52.2	87.9	113.5
British Columbia.....	142.5	31.7	79.4	227.1	104.7
Canada.....	100.0	100.0	100.0	100.0	100.0
National percentage increase.....	(361.6)	(688.1)	(197.4)	(206.8)	(505.2)

SOURCE: See Table 25.

On the basis of these figures the position of Quebec appears particularly strong, the province having above average rates of expansion in all industries other than fisheries production, a relatively small sector of the provincial economy. Attention is drawn to the high rate for Quebec's mining and mineral-processing industry and the record of the provincial agricultural products industry. Ontario's somewhat less attractive record arises largely out of the problem of percentage gains as these are registered from a high base. The figures show the considerable vitality of the Prairie regional economy in forestry, mining and secondary manufacturing, and are important pointers to the growing diversity of the regional economy. British Columbia's strong growth record in forest products is most important, for this was achieved from a high 1926 base level. The figures also indicate that economic expansion in the province has been broadly based. The Maritime Provinces, however, do not appear to have participated to the same extent in the expansion of activity which has characterized the Canadian economy over the period. In fisheries products the region has made a big contribution to the national gain. In forest products the regional expansion was close to

Table 28

GROWTH IN GROSS VALUE OF PRODUCTION BY REGIONS AND BY SELECTED INDUSTRIES, 1926-53,  
EXPRESSED AS A PERCENTAGE OF THE AVERAGE REGIONAL INCREASE IN THOSE  
SELECTED INDUSTRIES OVER THE PERIOD

	Forest products	Mining and mineral processing	Fisheries products	Agricultural products	Residual primary products	Total resource industries	Secondary manu- facturing
Maritime Provinces.....	26.7	10.7	12.2	18.4	1.0	69.0	31.0
Quebec.....	14.3	10.9	0.1	13.8	1.4	40.5	59.5
Ontario.....	5.9	7.3	—	14.1	1.2	28.5	71.5
Prairie Provinces.....	4.0	11.4	0.1	55.2	—	70.7	29.3
British Columbia.....	42.3	10.3	5.3	14.1	2.7	74.7	25.3

Table 29

RATE OF GROWTH IN GROSS VALUE OF PRODUCTION BY REGIONS AND BY SELECTED INDUSTRIES,  
1926-53, EXPRESSED AS A PERCENTAGE OF THE AVERAGE REGIONAL RATE OF GROWTH  
IN THOSE SELECTED INDUSTRIES OVER THE PERIOD

	Forest products	Mining and mineral processing	Fisheries products	Agricultural products	Residual primary products	Total resource industries	Secondary manu- facturing
Maritime Provinces.....	140.4	81.0	116.2	68.5	536.0	98.8	102.8
Quebec.....	76.6	428.8	32.9	62.9	239.7	91.9	106.4
Ontario.....	61.7	197.7	38.0	46.5	100.8	63.6	129.4
Prairie Provinces.....	216.7	349.5	38.7	68.2	—	81.9	215.3
British Columbia.....	124.4	52.7	37.9	113.4	1,961.9	93.2	127.6

Source: See Table 25.

the national average despite the fact that this rate of increase was high. In respect of mining and mineral processing, in which the relative rate of growth appears particularly slow, it will be recalled that these figures, in the case of the Maritime Provinces, include primary iron and steel.

A more "regional" perspective on growth of production may be gathered from Tables 28 and 29. In Table 28 the increase in gross value of production in different industries of the regions is set out as a percentage of the average regional increase in the industries concerned. In Table 29 growth is expressed on a percentage basis, the percentage increase in gross value of production in the individual industries being related to the regional percentage increase as a whole covering these industries.

### *The Maritimes*

From the foregoing it will be seen that nearly 70% of the increase in gross value of production in the Maritime Provinces accrued from the resource industries. The forest products industry accounted for nearly 40% of this increased value of output of the resource industries. The strong dynamic of the forest products industry is apparent also in the fact that the rate of increase in value output over the period was some 40% above the average rate of increase in the region. It might be noted that approximately half of this increase in forest products came from the growth of pulp and paper production, compared with about one-quarter from the increased value of lumber production. Although the agricultural products industry contributed more than the fisheries products industry to the total increase, the higher rate of increase in the fisheries products industry over the period suggests a more powerful momentum in the latter industry. The figures show that increased primary processing accounted for over 50% of the increase in the gross value of production of the fisheries products, a figure which compares with some 35% in the case of agriculture. The mining and mineral-processing industry lagged over the period but still demonstrated a higher growth rate than agriculture. Over 40% of the increase arose out of the expansion of primary iron and steel production. The last-mentioned industry, however, expanded its production only at about one-third of the national rate. Growth in the resource industries in the Maritime Provinces as a whole was more closely related to an increase in the value of the goods produced than to an increase in the volume of output. There was a significant growth in primary processing.

A big factor in the growth of secondary manufacturing in the region was the increased gross value of production of transportation equipment. In this instance the percentage increase exceeded the rate of increase for the industry as a whole in Canada. The regional increase in non-metallic mineral products, including clay bricks and gypsum products, and in clothing was above the national average for these industries. But they remained relatively small items in the regional total of secondary manufacturing.

Over the period there was a net increase of some 30% in the number of secondary manufacturing establishments, and employment increased by nearly 90%. The average number of employees per establishment increased from 26 to 38, while the net value of production per establishment increased more than threefold. This tendency toward larger manufacturing establishments was accompanied by a doubling of the net value of production per employee. Productivity in primary processing, the net value of production per employee per annum, increased greatly (statistically, 450%) and by 1953 was about equivalent to the net value of output per worker in secondary manufacturing in the region. The pulp and paper industry was the great leavening force of the primary industries.

### *Quebec*

The forest products industry in Quebec accounted for about one-third of the increase in the gross value of production of the province's resource industries, and once again the growth in the value of pulp and paper production was the most vital factor. As in the instance of the Maritime Provinces, the agricultural products industry in Quebec accounted for a substantial proportion of the increase in gross value of production. The rate of growth, although faster than in the fisheries products industry, was greatly exceeded by that of the mining and mineral-processing industry. This industry achieved the fastest rate of growth over the period in Quebec and accounted for more than 28% of the total increase of the resource industries. A large percentage of the increase took place in the production of non-ferrous metals, largely aluminum. Although the physical volume of output of the resource industries increased considerably over the period, the development of primary processing again played the major role in the increased value of production. In respect of secondary manufacturing, the clothing industry was the largest contributor to the increased gross value of production, with the transportation equipment, petroleum and coal products, iron and steel products, foods and beverages, and textile industries playing important roles in that growth. In all these industries, Quebec's rate of increase was above the Canadian average rate of increase. In this regard, the province's petroleum and coal products, non-metallic mineral products, including asbestos, cement and glass, paper products, wood products, and textile and clothing industries all showed a percentage rate of growth more than 30% above the Canadian average. The province experienced a large growth in the number of manufacturing establishments — a 140% increase — and an increase of some 88% in the number of workers employed. The net value of production per establishment remained considerably above the average for the Maritime Provinces but had risen at a slower rate in Quebec. The average number of employees per establishment increased from 42 to 45. The net value of production per employee in secondary manufacturing showed an increase of some 88%, which compares with an increase of some 138% in the primary processing industries of the province.

*Ontario*

The increase in gross value of production for secondary manufacturing over the period 1926 to 1953 was an even more important factor in the growth of these sectors of the economy in Ontario than in the instance of Quebec. Over 70% of the increase in gross value of production in Ontario came from secondary manufacturing, and the rate of growth was relatively high as compared with the resource industries other than mining. In the resource industries, the increased value of agricultural products accounted for the largest proportion of the gain, more than half of which arose out of increased primary processing. The second largest contributor among the resource industries was the mining and mineral-processing industry. Most of the gain arose out of increased production in the processing of non-ferrous metals, and the figures indicate that the rate of growth of the industry was higher than in any other sector of the Ontario economy. The expansion of pulp and paper production was the most important factor in the growth of the forest products industry in Ontario. In respect of secondary manufacturing, increased gross value of production in the transportation equipment and iron and steel products industries was the most significant, although there were relatively large increases in the electrical apparatus and supplies, foods and beverages, and chemical and allied products industries. The rate of growth was particularly steep in respect of tobacco and tobacco products, textiles and chemicals. Over the period the number of manufacturing establishments increased by nearly 70%. Employment increased by more than double this rate. Increase in size as measured by employment and net value of production per establishment was a distinguishing characteristic of growth in secondary manufacturing in Ontario. Net value of production per employee increased by some 155% in secondary manufacturing, a figure which compares with 172% in primary processing.

*The Prairies*

In the Prairie Region over 68% of the increases in gross value of production covering the resource industries and secondary manufacturing came from higher value of production of agricultural products. Whereas elsewhere in Canada much of the increased value of production of the industry was associated with the growth of primary processing, in the Prairie Region less than 30% of the agricultural increase came from a growth of primary processing. The growth of the mining and mineral-processing industry was the most spectacular, being nearly twice as high as the regional average. Much of this increase arose out of the discovery and development of the oil and gas resources of the region, although there was a significant additional production of non-ferrous metals. Although the industry is relatively small, the figures show that the importance of the high growth rate of the Prairie forest products industry can be easily underestimated. Increased value of lumber production accounted for nearly 60% of the growth of this industry. The industry accounted for some 4% of the total increase in the regional

gross value of production. Secondary manufacturing contributed nearly 30% of the increase in gross value of production and showed a high rate of growth effectively exceeded only by that of the mining and mineral-processing industry. The outstanding increases were in the petroleum industry, but very considerable expansion in gross value of production occurred in the foods and beverages, the iron and steel products, and the transportation equipment industries. Rates of growth above the Canadian average were registered in the wood products, clothing, foods and beverages, paper products, iron and steel products, non-metallic mineral products and petroleum industries, all of which are substantial industries in the region. The highest rate of growth was in the leather products industry, a relatively small factor in total secondary manufacturing in the region. The number of secondary manufacturing establishments doubled over the period, while employment increased nearly threefold. The number of employees per establishment increased from 19 to 25, a low average compared with all other regions except British Columbia. The net value of production per establishment, however, increased substantially from \$50,263 to \$145,524. Net value of production per employee increased by some 120% in secondary manufacturing, as compared with 90% in primary processing.

### *British Columbia*

Nearly 75% of the expansion in gross value of production covering the resource industries and secondary manufacturing in British Columbia came from increased value of production from the resource industries, and, of this increase, more than 55% came from the forest products industry. The rate of growth in this industry was exceeded only by that of secondary manufacturing. Much of the growth of the industry was related to increased production of lumber and primary wood products, pulp and paper expansion accounting for less than 20% of the increase. Increased value of production of agricultural products represented nearly 20% of the increase achieved by the resource industries in British Columbia, and the value of production expanded at a faster rate than either the fisheries or the mining and mineral-processing industries of the province. Nearly 60% of the expansion of agricultural products came from the development of primary processing. Increased processing accounted for more than half the gain in the gross value of production of the fisheries products industry. The mining and mineral-processing industry was the source of nearly 14% of the gain arising out of the resource industries, much of this arising out of increased value of production of base metals. The most substantial gains in the gross value of production in secondary manufacturing occurred in the primary foods and beverages, iron and steel products, petroleum, and transportation equipment industries. The fastest rate of growth was achieved in the electrical apparatus and supplies industry. The expansion of paper products, a more substantial item in the province's manufacturing industry, was very much above the Canadian average, and exceptional growth was apparent in respect of the

clothing, iron and steel products, transportation equipment, non-metallic mineral products, and the leather products industries. The number of secondary manufacturing establishments increased by some 176%. Employment increased more than threefold, and the net value of production per establishment increased by some 165%. Net value of production per worker increased by 133% in secondary manufacturing, as compared with an increase of some 266% in primary processing. The figures suggest that secondary manufacturing in British Columbia is more characteristically small in scale. The record, however, shows that productivity is relatively high despite the differential in scale.

The period of growth from 1926 to 1953, as noted earlier, was not one of steady development. The first two or three years of the period were relatively prosperous ones but they preceded a severe depression from which Canada had barely recovered by 1939. World War II provided a strong stimulus to the economies of all the regions, and each reacted to the problems of adjustment to peace-time conditions, the Korean conflict, and a continuing high demand, in the domestic market, for goods and services and, in international markets, for the products of our resource industries, notably for our mineral and forestry products. Since much of the growth of the period took place after 1939, it is desirable to give some special attention to the shorter-term pattern of regional growth.

Over the period as a whole the increase in the gross value of production of secondary manufacturing was  $1\frac{1}{2}$  as great as the increase in the gross value of production from Canada's resource industries. The resource industries gathered momentum during the period 1939 to 1946, and the increase from these industries was about equal to the increase secured from the growth of secondary manufacturing during this time. The growth of secondary manufacturing was highly important in the 1946-53 period, the increase being  $1\frac{3}{4}$  as much as the increase from the resource industries during this interval. The regions showed a great deal of variation from this Canadian pattern. As noted earlier, secondary manufacturing has been a much greater dynamic in the economies of Quebec and Ontario over the period, notably in the instance of Ontario. In Ontario the increased value of production from secondary manufacturing was twice as great as the increase of the provincial resource industries between 1939 and 1946 and three times as great between 1946 and 1953. In Quebec the increase from manufacturing was half as much again as the increase from the resource industries in both periods — 1939 to 1946 and 1946 to 1953. The resource industries on the other hand, from 1939 to 1946 accounted for an increase that was three times as great in the Maritime Provinces, four times as great in the Prairie Region and twice as great in British Columbia. The momentum of the resource industries of British Columbia was outstanding in the subsequent 1946-53 period, accounting for three times the increased output from secondary manufacturing in the province. In the Prairie Region the ratio

was reduced, and in the 1946-53 period the increase in the gross value of production of the resource industries was about twice as great as the increase from secondary manufacturing. In the Maritime Provinces the resource industries accounted for about  $1\frac{1}{2}$  times the increase from secondary manufacturing. It is apparent that British Columbia and the Prairie Region, notably Alberta and Saskatchewan, experienced considerable growth in secondary manufacturing activity, particularly in the 1946-53 period. This growth, however, does not appear as great in these instances when related to the growth of the resource industries, mostly because the rate of growth of the resource industries themselves was high. The greater change in the ratio noted in respect of the Maritime Provinces reflects both a gain in secondary manufacturing and a slower tempo of resource development.

In most of the regions the increase in value of output of agricultural products was spread fairly evenly over the period 1939-53 after a long period of stagnation or depression. A higher proportion of the gain during the latter half of the period came from increased primary processing. In the Prairie Region the larger proportionate gain, however, came between 1946 and 1953, reflecting increased prices of wheat and a series of excellent crops. The increase in the processing of agricultural products in this instance is somewhat greater in the earlier part of the period. The fisheries products industry made a strong recovery in the early part of the period 1939-53 but showed less capacity to expand in the latter part. Expansion in British Columbia and in the Maritimes, the two major fish-producing regions, was related almost equally to increased value received from primary catching and to that derived from increased processing. The mining and mineral-processing industries in all the regions had made a strong recovery by 1939. The rate of increase in gross value of production tended to level off for the period 1939-46, and there was some decline in primary production in Ontario owing to the lower output of gold. By the end of the period 1939-53, the industry was exerting a powerful forward thrust in all regions, with the possible exception of the Maritime Provinces. The outstanding feature of this period was the discovery and development of the oil and gas resources of the Prairie Region, and of Alberta in particular. This, however, must not be allowed to overshadow completely the strength of the industry in other minerals and in other areas of the country. The recovery from depression of the forest products industry was impressive in all regions after 1939, and more particularly so in the period 1946-53; and the strength of its growth was especially apparent in the period 1946-53. The increased value of lumber production was a stronger element of growth in the 1936-46 period than in the subsequent years in the Maritimes, Quebec and Ontario, when the pulp and paper industry reasserted its prominence in these eastern regions. The dynamic of the industry was very apparent in British Columbia, especially after 1946. Expansion in the value of output of lumber and wood products was the main reason for the gains recorded, but pulp and paper production was of growing importance in the later period. In that later period also

the Prairie Region registered a substantial gain in lumber production, and in Manitoba the beginnings of a pulp and paper industry appeared.

### *Capital Investment*

It is unfortunate that the statistics which have been prepared specifically for this review of the growth of activity in the regions do not extend beyond 1953. Something of the pattern and momentum of regional development in more recent years, however, can be gleaned from a very useful series of capital investment figures issued by the Department of Trade and Commerce which cover the period 1949-56. Tables 30 and 31, calculated from this series, show new capital expenditures occurring in the different regions over that period. Table 30 gives some indication of the general categories in which investment has been taking place, while Table 31 shows the expenditures on a per capita basis.

Table 30

## NEW CAPITAL INVESTMENT (a) BY REGIONS 1949-56 INCLUSIVE

(millions of 1949 dollars)

	Nfld.	P.E.I.	N.S.	N.B.	Maritime	Atlantic	Que.	Ont.	Man.	Sask.	Alta. (b)	Prairies B.C. (c)	Canada
<b>1949</b>													
Primary and construction industries (d).....	6.5	3.0	16.7	9.8	29.5	36.0	85.9	172.9	53.4	105.4	127.3	286.1	623.0
Manufacturing.....	8.3	0.3	8.9	12.6	21.8	30.1	164.2	240.2	13.5	10.5	12.9	36.9	535.8
Utilities (e).....	2.2	1.7	17.4	19.1	38.2	40.4	167.1	279.9	43.1	30.7	41.7	115.5	678.9
Trade, finance and commercial services.....	2.3	2.2	8.5	5.9	16.6	18.9	60.2	139.1	15.8	11.7	19.2	46.7	293.0
Total business investment (f).....	19.3	7.2	51.5	47.4	106.1	125.4	477.4	832.1	125.8	158.3	201.1	485.2	2,130.7
Housing.....	11.0	2.3	26.8	15.3	44.4	55.4	187.4	292.2	41.3	26.8	78.8	146.9	776.0
Institutions and government depts. (g).....	10.0	6.0	38.4	32.3	76.7	86.7	128.6	173.7	32.0	26.6	71.8	130.4	594.6
Sub total.....	21.0	8.3	65.2	47.6	121.1	142.1	316.0	465.9	73.3	53.4	150.6	277.3	1,370.6
Grand total.....	40.3	15.5	116.7	95.0	227.2	267.5	793.4	1,298.0	199.1	211.7	351.7	762.5	3,501.3
<b>1950</b>													
Primary and construction industries.....	7.4	3.3	20.7	13.6	37.6	45.0	77.1	188.6	55.7	109.6	148.4	313.7	666.1
Manufacturing.....	7.2	0.9	7.3	7.2	15.4	22.6	145.8	208.3	15.9	8.1	15.9	39.9	480.4
Utilities.....	4.6	1.6	16.2	15.7	33.5	38.1	133.7	300.9	43.8	46.3	47.8	137.9	688.0
Trade, finance and commercial services.....	1.4	1.3	13.3	5.2	19.8	21.2	76.7	159.3	19.1	14.2	31.4	64.7	379.5
Total business investment.....	20.7	7.2	57.4	41.6	106.2	126.9	433.2	857.1	134.5	178.2	243.4	556.1	2,214.1
Housing.....	23.1	7.8	37.9	31.5	120.8	143.9	231.4	303.9	39.4	23.4	69.3	132.1	807.8
Institutions and government depts.....	23.1	7.8	45.9	67.1	120.8	143.9	144.0	195.8	33.2	25.5	67.1	125.8	624.4
Sub total.....	43.8	15.0	103.3	108.7	227.0	270.8	375.4	499.7	72.6	48.9	136.4	257.9	1,432.2
Grand total.....							808.5	1,356.8	207.2	227.2	379.9	814.3	3,046.4

## 1951

Primary and construction industries.....	7.7	4.0	16.7	12.6	33.3	41.0	91.3	178.0	55.9	100.3	162.1	318.3	60.6	689.3
Manufacturing.....	8.2	0.3	10.4	14.7	25.4	33.6	166.9	332.4	14.8	11.1	30.8	56.7	76.9	666.6
Utilities.....	8.0	1.3	19.2	20.4	40.9	48.9	178.6	303.7	39.2	30.4	43.1	112.7	112.7	756.5
Trade, finance and commercial services...	1.8	0.6	14.9	6.2	21.7	23.5	67.2	147.2	23.0	14.2	37.0	74.2	34.1	348.6
Total business investment.....	25.7	6.1	61.2	53.9	121.2	146.9	504.1	961.3	132.9	156.0	273.0	561.9	284.3	2,438.6
Housing.....	{23.0}		9.7	16.6	{85.0}		206.4	280.3	31.8	17.9	52.4	102.1	67.7	690.4
Institutions and government depts.....	{6.9}		27.9	23.9	{108.0}		185.3	221.8	28.9	26.4	83.6	138.9	79.1	699.2
Sub total.....	23.0	6.9	37.6	40.5	85.0	108.0	391.7	502.1	60.7	44.3	136.0	241.0	146.8	1,389.6
Grand total.....	48.8	13.0	98.8	94.4	206.2	255.0	895.9	1,463.4	193.6	200.3	409.1	803.0	431.0	3,848.4

## 1952

Primary and construction industries.....	11.2	5.1	18.1	11.9	35.1	46.3	105.4	154.5	54.3	131.2	176.8	362.3	50.2	718.7
Manufacturing.....	12.4	0.8	13.8	11.2	25.8	38.2	189.0	390.6	9.7	7.9	61.5	79.1	99.1	796.0
Utilities.....	11.0	2.1	18.7	22.2	43.0	54.0	250.4	325.0	48.0	37.4	61.4	146.8	171.6	947.7
Trade, finance and commercial services...	6.4	0.8	7.6	7.2	15.6	22.0	59.4	112.1	15.4	13.3	35.9	64.6	23.2	281.5
Total business investment.....	41.1	8.8	58.2	52.4	119.4	160.5	604.3	982.2	127.3	189.9	335.7	652.9	344.1	2,743.9
Housing.....	{29.4}		16.2	10.1	{88.9}		198.7	253.5	31.1	27.0	59.4	117.5	66.9	675.9
Institutions and government depts.....	{5.3}		34.6	22.7	{118.3}		246.9	318.6	39.4	39.6	97.2	176.2	83.6	904.6
Sub total.....	29.4	5.3	50.8	32.8	88.9	118.3	445.6	572.1	70.5	66.6	156.6	293.7	150.5	1,580.5
Grand total.....	70.5	14.2	109.0	85.4	208.6	279.1	1,049.8	1,554.3	197.7	256.4	492.4	946.5	494.7	4,324.4

## 1953

Primary and construction industries.....	6.7	4.1	15.2	12.3	31.6	38.3	135.8	152.2	51.9	129.2	174.2	355.3	45.1	726.5
Manufacturing.....	10.4	0.7	10.4	8.5	19.6	30.0	144.9	391.1	9.2	14.0	71.7	94.9	97.9	738.9
Utilities.....	9.6	1.4	23.4	14.9	39.7	49.3	233.0	347.7	55.1	41.3	64.8	161.2	155.4	946.7
Trade, finance and commercial services...	7.0	1.1	11.3	12.1	24.5	31.5	84.7	170.6	19.3	21.8	46.6	87.7	37.7	412.2
Total business investment.....	33.7	7.4	60.3	47.8	115.5	149.2	598.5	1,061.6	135.4	206.3	357.2	698.9	336.2	2,844.4
Housing.....	{29.0}		19.7	12.6	{106.2}		257.2	313.2	40.7	36.4	83.9	161.0	70.0	848.9
Institutions and government depts.....	{6.3}		43.0	24.6	{135.2}		220.6	274.2	47.6	37.1	129.9	214.6	84.0	881.0
Sub total.....	29.0	6.3	62.7	37.2	106.2	135.2	477.8	587.4	88.3	73.5	213.8	375.6	154.0	1,729.9
Grand total.....	62.6	13.6	122.9	85.0	221.5	284.1	1,076.3	1,648.9	223.8	279.9	571.0	1,074.7	490.2	4,574.2

## 1954

Primary and construction industries.....	6.9	3.9	15.1	10.9	29.9	36.8	119.7	161.6	41.6	96.7	144.4	282.7	38.7	639.5
Manufacturing.....	7.1	0.2	7.8	6.7	14.7	21.8	161.6	329.9	21.4	10.5	39.3	71.2	66.9	651.4
Utilities.....	6.1	1.4	22.5	19.6	43.5	49.6	220.4	311.1	51.8	82.4	75.0	209.2	100.2	890.5
Trade, finance and commercial services...	5.1	2.0	13.9	12.0	27.9	33.0	96.2	202.3	20.5	25.1	38.7	84.3	45.3	461.1
Total business investment.....	25.2	7.4	59.4	49.2	116.0	141.2	597.9	1,004.8	135.3	214.8	297.4	647.5	251.0	2,642.6
Housing.....	{32.4}		22.2	15.8	{116.7}		232.6	384.2	45.4	40.9	93.5	179.8	85.1	933.4
Institutions and government depts.....	{6.9}		42.2	29.6	{149.1}		248.3	266.0	32.6	42.9	106.0	181.5	86.3	879.7
Sub total.....	32.4	6.9	64.4	45.4	116.7	149.1	480.9	650.2	78.0	83.8	199.5	361.3	171.4	1,813.1
Grand total.....	57.7	14.3	123.8	94.5	232.6	290.3	1,078.8	1,655.1	213.4	298.6	497.0	1,005.0	422.4	4,455.7

92 *New Capital Investment (a) by Regions 1949-56 inclusive (Table 30 cont'd.)*

	Nfld.	P.E.I.	N.S.	N.B.	Mar- times	Atlantic	Que.	Ont.	Man.	Sask.	Alta.	Prairies	B.C.	Canada
1955														
Primary and construction industries.....	10.1	4.9	15.9	15.1	35.9	46.0	124.2	199.5	46.4	102.8	189.4	338.6	61.4	769.6
Manufacturing.....	7.0	0.4	17.0	9.4	26.8	33.8	203.4	317.3	22.0	6.8	47.3	76.1	98.5	729.6
Utilities.....	8.9	1.3	26.9	25.3	53.5	62.4	227.3	267.0	44.4	54.1	73.0	171.5	118.3	846.7
Trade, finance and commercial services.....	5.4	2.5	10.8	9.3	22.6	28.0	86.1	201.4	19.0	18.3	38.6	75.9	41.1	432.2
Total business investment.....	31.4	9.2	70.6	59.2	139.0	170.4	641.1	985.4	131.7	181.9	348.3	661.9	319.3	2,778.1
Housing.....	37.0	7.1	24.4	25.5	132.0	169.0	307.6	466.8	54.6	38.1	93.2	185.9	129.5	1,154.8
Institutions and government depts.....	37.0	7.1	30.6	44.4	132.0	169.0	242.3	297.7	49.4	49.4	124.9	219.7	95.6	959.2
Sub total.....	74.0	14.2	55.0	69.9	264.0	338.0	549.9	764.5	100.0	87.5	218.1	405.6	225.1	2,114.0
Grand total.....	68.4	16.3	125.7	129.2	271.2	339.6	1,191.1	1,749.7	231.7	269.4	566.4	1,067.5	544.4	4,892.1
1956														
Primary and construction industries.....	11.0	4.9	18.6	21.4	44.9	55.9	144.9	275.3	47.0	126.6	229.0	402.6	62.7	940.4
Manufacturing.....	6.7	0.1	17.4	12.3	29.8	36.5	241.4	439.5	17.9	13.4	83.0	114.3	147.2	978.9
Utilities.....	8.7	2.8	25.2	32.2	60.2	68.9	266.3	348.0	60.1	96.7	91.2	248.0	251.6	1,182.9
Trade, finance and commercial services.....	5.7	1.3	9.0	8.3	18.6	24.3	98.4	208.2	23.7	16.0	29.9	69.6	40.0	440.4
Total business investment.....	32.0	9.1	70.2	74.4	153.7	185.7	751.0	1,271.0	148.7	252.8	433.2	834.7	501.4	3,542.8
Housing.....	34.4	6.5	21.8	22.9	118.8	153.2	342.8	436.6	50.3	30.8	97.2	178.3	125.7	1,142.9
Institutions and government depts.....	34.4	6.5	33.2	34.4	118.8	153.2	246.9	346.3	61.8	51.0	129.6	242.4	117.4	1,047.2
Sub total.....	68.4	15.6	55.0	57.3	272.4	338.4	589.7	782.9	112.1	81.8	226.8	420.7	243.1	2,190.1
Grand total.....	66.4	15.6	125.2	131.6	272.4	338.8	1,340.7	2,053.9	260.7	334.7	659.9	1,255.3	744.5	5,732.9

(a) Figures are gross expenditures on new durable physical assets (including outlays on construction, machinery and equipment) for the years 1949-54 inclusive. They do not include outlays on repair and maintenance, purchases of existing assets or investment in inventories.

(b) Includes the Northwest Territories.

(c) Includes the Yukon Territory.

(d) Includes agriculture, fishing, forestry, mining, quarrying and oil wells.

(e) Principally central electric stations, railways, telephones, oil and gas pipelines and municipal waterworks. Includes publicly-owned enterprises.

(f) Includes publicly-owned commercial enterprises.

(g) Institutions are largely churches, schools and hospitals. Outlays of government departments include outlays on new defence installations (but not expendable equipment), public buildings, streets, highways and bridges by federal, provincial and municipal governments.

Source: Calculated from figures supplied by the Department of Trade and Commerce.

Table 31

NEW CAPITAL INVESTMENT (a) PER CAPITA BY REGIONS 1949-56 INCLUSIVE  
(constant 1949 dollars)

	Nfld.	P.E.I.	N.S.	N.B.	Marl- times	Atlantic	Que.	Ont.	Man.	Sask.	Alta. (b)	Prairies	B. C. (c)	Canada
1949														
Primary and construction industries (d)...	19	32	27	19	24	23	22	39	71	127	141	115	38	46
Manufacturing.....	24	3	14	25	18	19	42	55	18	13	14	15	57	40
Utilities (e).....	6	18	28	38	31	26	43	64	57	37	46	46	68	50
Trade, finance and commercial services.....	7	23	14	12	13	12	16	32	21	14	21	19	25	22
Total business investment (f).....	56	77	82	93	86	80	123	190	166	190	223	195	188	158
Housing.....	32	24	43	30	36	35	48	67	55	32	87	59	84	58
Institutions and government depts. (g).....	29	64	61	64	62	55	33	40	42	32	80	52	67	44
Sub total.....	61	88	104	94	98	90	81	107	97	64	167	111	151	102
Grand total.....	117	165	186	187	185	170	204	296	263	254	390	306	339	260
1950														
Primary and construction industries.....	22	34	32	27	30	28	19	42	73	132	160	124	36	49
Manufacturing.....	21	9	11	14	12	14	37	47	21	10	17	16	56	35
Utilities.....	13	17	25	31	27	24	34	67	57	56	51	55	68	50
Trade, finance and commercial services.....	4	14	21	10	16	13	19	36	25	17	34	26	50	28
Total business investment.....	59	75	90	81	85	80	109	192	175	214	262	220	210	161
Housing.....	} 66		13	70	} 97		58	68	51	28	75	52	72	59
Institutions and government depts.....	} 81		59	62	} 97		36	44	43	31	72	50	64	46
Sub total.....	66	81	72	132	97	90	94	112	94	59	147	102	136	105
Grand total.....	125	156	162	212	182	170	204	303	270	273	409	322	346	266

New Capital Investment (a) per Capita by Regions 1949-56 inclusive (Table 31 cont'd.)

	Nfld.	P.E.I.	N.S.	N.B.	Maritime	Atlantic	Que.	Ont.	Man.	Sask.	Alta. (b)	Prairies B.C. (c)	Canada
1951													
Primary and construction industries.....	21	41	26	24	26	25	23	39	72	121	170	124	52
Manufacturing.....	23	3	16	28	20	21	41	72	19	13	32	22	66
Utilities.....	22	13	30	40	33	30	44	66	51	37	45	44	96
Trade, finance and commercial services.....	5	6	23	12	17	15	17	32	30	17	39	29	25
Total business investment.....	71	62	95	104	96	91	124	209	171	187	286	219	242
Housing.....	64	70	15	32	68	67	51	61	41	22	55	40	58
Institutions and government depts.....	64	70	43	46	68	67	46	48	37	32	88	54	67
Sub total.....	135	133	58	78	164	158	221	318	249	54	142	94	125
Grand total.....			154	183						241	428	313	367
													275
1952													
Primary and construction industries.....	30	50	28	23	27	28	25	32	68	156	179	138	42
Manufacturing.....	33	8	21	21	20	23	45	82	12	9	62	30	82
Utilities.....	29	20	29	42	34	33	60	68	60	44	62	56	142
Trade, finance and commercial services.....	17	8	12	14	12	13	14	24	19	16	36	25	19
Total business investment.....	110	85	89	100	93	97	145	206	160	225	340	249	285
Housing.....	79	51	25	19	69	71	48	53	39	32	60	45	55
Institutions and government depts.....	79	51	53	43	69	71	59	67	49	47	99	67	69
Sub total.....	188	138	78	62	163	170	252	326	248	79	159	112	125
Grand total.....			167	168						304	499	360	410
													300
1953													
Primary and construction industries.....	17	39	23	23	24	23	32	31	64	150	171	132	36
Manufacturing.....	25	14	16	16	15	18	34	80	11	16	70	35	79
Utilities.....	18	10	35	28	30	29	55	71	68	48	64	60	125
Trade, finance and commercial services.....	87	70	17	23	19	19	20	35	24	25	46	33	30
Total business investment.....	76	59	91	89	89	88	140	217	167	240	351	260	271
Housing.....	76	59	30	24	81	80	60	64	50	42	82	60	56
Institutions and government depts.....	76	59	65	46	81	80	52	56	59	43	128	80	60
Sub total.....	163	128	95	70	170	168	252	337	277	85	210	140	124
Grand total.....			185	159						325	561	400	396
													309

New Capital Investment (a) per Capita by Regions 1949-56 inclusive (Table 31 cont'd).

1954													
Primary and construction industries.....	18	37	22	20	23	21	27	32	50	110	137	102	42
Manufacturing.....	18	2	12	12	11	13	37	65	26	12	37	26	43
Utilities.....	15	13	33	36	33	29	50	62	63	94	71	76	59
Trade, finance and commercial services....	13	19	21	22	21	19	22	40	25	29	37	31	30
Total business investment.....	63	70	88	90	88	82	136	199	163	245	282	234	197
Housing.....	82	66	33	29	88	87	53	76	55	47	89	65	61
Institutions and government depts.....	82	66	63	54	88	87	57	53	39	49	100	66	58
Sub total.....	145	136	96	83	88	87	110	129	94	96	189	131	119
Grand total.....	145	136	184	173	175	168	246	328	258	340	471	365	293
1955													
Primary and construction industries.....	25	45	23	27	27	26	27	38	55	116	175	120	49
Manufacturing.....	17	4	25	17	20	19	45	61	26	8	44	27	75
Utilities.....	22	12	39	45	40	35	50	52	52	61	67	61	54
Trade, finance and commercial services....	13	23	16	17	17	16	19	39	22	21	36	27	31
Total business investment.....	76	85	103	106	103	97	142	190	155	205	321	235	178
Housing.....	90	66	36	46	98	96	68	90	64	43	86	66	98
Institutions and government depts.....	90	66	45	80	98	96	54	57	53	56	115	78	73
Sub total.....	166	151	81	126	98	96	122	147	117	99	201	144	171
Grand total.....	166	151	184	232	201	193	264	338	273	303	523	378	414
1956													
Primary and construction industries.....	27	49	27	39	33	32	31	51	55	144	201	140	58
Manufacturing.....	16	1	25	22	22	21	52	81	21	15	73	40	61
Utilities.....	21	28	36	58	45	39	58	64	71	110	80	86	178
Trade, finance and commercial services....	14	13	13	15	14	14	21	39	28	18	26	24	28
Total business investment.....	77	92	101	134	114	105	162	235	175	287	379	291	356
Housing.....	83	66	31	41	88	87	74	81	59	35	85	62	89
Institutions and government depts.....	83	66	48	62	88	87	53	64	73	58	113	84	83
Sub total.....	160	158	79	103	88	87	127	145	132	93	199	146	172
Grand total.....	160	158	180	237	202	192	290	380	307	380	578	437	528

(a) Figures are gross expenditures on new durable physical assets (including outlays on construction, machinery and equipment) for the years 1949-54 inclusive. They do not include outlays on repair and maintenance, purchases of existing assets or investment in inventories.

(b) Includes the Northwest Territories.

(c) Includes the Yukon Territory.

(d) Includes agriculture, fishing, forestry, mining, quarrying and oil wells.

(e) Includes public utility-owned commercial enterprises.

(f) Includes public utility-owned commercial enterprises.

(g) Includes public utility-owned commercial enterprises.

(h) Includes public utility-owned commercial enterprises.

(i) Includes public utility-owned commercial enterprises.

(j) Includes public utility-owned commercial enterprises.

(k) Includes public utility-owned commercial enterprises.

(l) Includes public utility-owned commercial enterprises.

(m) Includes public utility-owned commercial enterprises.

(n) Includes public utility-owned commercial enterprises.

(o) Includes public utility-owned commercial enterprises.

(p) Includes public utility-owned commercial enterprises.

(q) Includes public utility-owned commercial enterprises.

(r) Includes public utility-owned commercial enterprises.

(s) Includes public utility-owned commercial enterprises.

(t) Includes public utility-owned commercial enterprises.

(u) Includes public utility-owned commercial enterprises.

(v) Includes public utility-owned commercial enterprises.

(w) Includes public utility-owned commercial enterprises.

(x) Includes public utility-owned commercial enterprises.

(y) Includes public utility-owned commercial enterprises.

(z) Includes public utility-owned commercial enterprises.

SOURCE: See Table 30.

These figures, it must be understood, represent capital flows or gross additions to capital stock. Unfortunately, there is no information on total capital stock by regions. For this reason their chief validity and usefulness is in the indication these give of the relative rate of capital investment in the regions. They are, therefore, discussed in more detail in the next chapter of this report, where an attempt is made to assess the relative prospects of future growth in the regions. It should also be noted that the figures follow the normal Dominion Bureau of Statistics classification of manufacturing, which includes the primary processing establishments, which in this study are considered in conjunction with the resource industries.

Over the period, for Canada as a whole, investment in utilities, of which electric stations are the largest component, but which also include telephones, railways and oil and gas pipelines, has been a prominent factor in investment in what might be termed the business sector of the Canadian economy as distinct from housing and institutional expenditures. Investment in the primary resource industries, even when the normal definition of manufacturing is employed, has been slightly higher than in manufacturing. If the figures could have been adjusted to the definition followed in this study, investment would have been proportionately much higher in the resource industries. It must be recalled that normally the resource industries are relatively more capital-intensive than secondary manufacturing.

On a regional basis the figures show that total investment per capita has been exceptionally high in British Columbia and the Prairie Region, with Alberta far in the lead of all other provinces throughout the period 1949-56. It has been high in Ontario. Quebec has fallen somewhat short of the Canadian average, while the Atlantic Region has had an exceptionally low rate of investment relative to the average. Investment in social capital — housing, institutions and government departments — has been a more important factor in the total investment in Quebec and much more so in the Atlantic Region.

### *The Prairie Region*

In the Prairie Region investment has been particularly high in the resource industries. Prior to 1949 investment in agricultural equipment had been proceeding at a high rate. This programme continued into the period covered by the capital investment figures previously referred to. Progressively, since 1947 and the Leduc discoveries, activities relating to the oil and natural gas boom, centred in Alberta but spreading steadily through Saskatchewan to Manitoba, have been the cause of the high capital expenditures which have obtained in the region. These have included large expenditures on pipelines to carry oil and gas throughout the region and beyond it to British Columbia and the States of Washington and Wisconsin and east to Ontario. They have included vast expenditures on exploration as well as considerable investment in fixed assets. Closely associated with this

expansion is the very high rate of investment in power production. The impact of the boom has been greatest in Alberta, where, in addition to major increases in oil refinery capacity, there has been a considerable growth in the field of secondary manufacturing. The most impressive of these is the growth of the chemical and petrochemical industry, but hardly less significant is the development of a new chemical-metallurgical industry in Alberta, based on the movement of base metals from Manitoba to the source of cheap fuels. These events tend to detract attention from other progress in secondary manufacturing, the commencement of investment in pulp and paper production and in the tertiary industries; nor do the figures cover the dis-investment, or loss of capital, which has been occurring owing to the serious setback of the coal-mining industry in Alberta.

The pace has not been so swift in the other Prairie provinces, and Saskatchewan has tended to outpace Manitoba over the period. Until 1953 investment in the two provinces, conforming to the pattern of the region, was largely in farm equipment. In Saskatchewan mineral exploration and development associated with uranium and potash as well as oil and gas provided a broader base for investment after that period. The rate of investment in manufacturing and the service industries also increased as the province experienced a resurgence in population growth, but this was less important than in the case of Manitoba. In the latter instance the substantial proportion of new investment was channelled into enlarged marketing facilities in consequence of the rapid growth of the regional market and the key role which historically belonged to Winnipeg as a distributing and manufacturing centre for the Prairie Region. In the more recent period, however, investment in Manitoba showed signs of strength in the mining industry as expenditures mounted on exploration and development of base metals and nickel deposits in the northern parts of the province. As a natural corollary to this, there are indications of greatly increased investment in power production. The more recent figures also reflect the development of oil and gas resources in the southwestern portion of Manitoba and the provincial participation in the network of pipelines traversing the region.

### *British Columbia*

New investment in British Columbia between 1949 and 1956 has been high in all sectors of the economy but most marked in the forest products and mining and mineral-processing industries and in power production. Investment in the pulp and paper industry of British Columbia has been rapidly developing in significance in the forest products industry even in the circumstances of heavy investment in increased plywood and other wood-processing capacities. Extensive investment in base metals and other mineral developments has been augmented by very heavy investment in aluminum-smelting, a new provincial investment which has had far-reaching effects, not the least of which is the further opening up of the northern area of the province. These developments have hinged to a large extent on power

facilities. As a result, investment in new power and related plant and equipment has been a prominent feature of British Columbia's capital investment programme. The very high figure for investment in utilities also includes expenditures arising out of the extension of oil and gas pipelines from the Peace River area to the west coast. Investment in secondary manufacturing has been considerable and has added to the strength and diversity of the provincial economy. It has been in response to the growing demands of the primary industries — for example, the pulp and paper industry's increased requirements for sulphur and caustic soda — the availability of gas and oil as the raw materials for such industries and the expansion of population and consumer expenditures.

### *Ontario*

The rate of investment in secondary manufacturing plant and equipment was high in Ontario during the war years, and defence expenditures during the Korean war and the subsequent period of defence preparations continued to exert a strong influence in this direction. A growing domestic demand for commodities — consumer goods and durable commodities — arising out of capital expenditures in the province as well as elsewhere in Canada also directed a high proportion of investment into secondary manufacturing. The rate of investment in Ontario has depended much less on the development of new resources than elsewhere in Canada. In more recent years there appears to be a relatively greater emphasis on resource development, notably on the forest products and the mining and mineral-processing industries, and a new growth of industries designed to provide the basic materials for further industrial processing. This is particularly apparent in the recent growth of investment in the chemical industry. The St. Lawrence Seaway and the related provincial power development programme have added to the high rate of investment in utilities which has been characteristic of Ontario for the whole period.

### *Quebec*

The Province of Quebec shared with Ontario the experience of heavy investment in secondary manufacturing plant and equipment during World War II and to a considerable extent in the postwar period, but there has been a stronger postwar emphasis in Quebec on the development of the resource industries, the forest products industry and, in particular, the mining and mineral-processing industry. Important developments in aluminum, asbestos, copper, zinc and titanium have been dwarfed by the largest single project in the resource field — the development of the iron-ore deposits in the Quebec-Labrador Trough. As a natural corollary to these developments, investment in hydro power has been very high, and the progressively higher rate of capital expenditures in the province reflects also growing expenditures on railroads and other forms of transportation entailed in the opening up of new areas to the north of the St. Lawrence River.

*The Maritimes*

New investment in the Maritime Provinces over much of the period 1949-56, apart from social capital expenditures, has tended to be directed toward the consolidation and improvement of plant and equipment rather than toward expansion. This is apparent in the heavy expenditures of capital in the coal mines and the steel industry of Nova Scotia, in the fisheries and in many of the secondary manufacturing establishments of the area. Public investment in docks, causeways and other forms of transportation or communications tended in the same direction. In more recent years the rate of investment has increased perceptibly and has shown increased emphasis on expansion. This trend is more apparent in New Brunswick, where investment in warehousing and distributing establishments, a growth arising in part from the increase in the regional market that came with Newfoundland's entry into Confederation, was followed by expanded pulp and paper production. More recently there have been considerable expenditures in mineral exploration and development. Coal mining production expanded as open-pit methods of production were adopted. One of the chief factors, however, was the base-metal discoveries in the Bathurst area, an event of major significance in the new vitality of the region as well as of the province. Concurrently, expenditures on the new military base in New Brunswick have contributed considerably to the new emphasis on expansion arising out of capital investment. As a result of these developments, the expansion of power facilities has become a vital factor in the province's capital expenditures. Investment in utilities, especially power, has been a most important factor elsewhere in the region, notably in Nova Scotia, where it is also possible to detect a note of expansion in the investment programme as the relative rate of investment in the business sector tends to increase. For the period as a whole, public investment, notably in the expansion of military establishments, has been a very prominent element in capital investment in Nova Scotia. Private investment in secondary manufacturing and the tertiary industries that service these establishments has been augmented by greater additional mineral exploration in the province and a sharp rise in gypsum production as new areas of this mineral are developed. As a reflection of this trend there has been a notable increase in the rate of urbanization in the province, an important element of growth which is also becoming increasingly apparent in New Brunswick.

*Allocation of the Labour Force*

The census figures on Canada's labour force are also useful in any consideration of regional aspects of Canada's economic growth. As noted, there have been considerable changes in emphasis in Canada's economic activity over the period. Many of these changes could not be measured on an output basis owing to the lack of statistics, but the re-allocation of Canada's labour force does cast some light on some of them. Table 32 shows the changing distribution of the labour force in the census years

Table 32

## DISTRIBUTION OF THE LABOUR FORCE BY PROVINCES AND REGIONS BY DECADES, 1931-51

	Maritime Provinces			Quebec			Ontario			Prairie Provinces			British Columbia			Canada		
	1931	1941	1951	1931	1941	1951	1931	1941	1951	1931	1941	1951	1931	1941	1951	1931	1941	1951
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Primary industries.....	41.6	39.6	26.8	25.0	25.6	16.9	24.9	21.7	13.0	51.8	51.3	37.2	24.9	24.3	13.6	32.6	30.7	19.8
Manufacturing.....	8.3	10.0	12.3	15.3	20.3	22.0	16.7	22.1	23.2	5.7	7.1	9.1	11.4	15.0	16.6	12.6	16.9	18.8
Trade and finance and service	21.4	24.7	28.0	26.5	26.6	26.7	25.7	26.9	28.3	21.5	23.4	26.5	27.4	29.6	32.1	24.7	26.1	27.8
Transportation.....																		
Other (a).....	28.6	33.3	38.6	33.4	33.6	35.9	33.9	34.7	37.6	27.4	29.6	35.5	37.3	38.9	43.8	32.1	33.5	37.3
	21.5	17.1	22.3	26.3	20.5	25.2	24.5	21.5	26.2	15.1	12.0	18.2	26.4	21.8	26.0	22.7	18.9	24.1

(a) "Other" means: construction and clerical workers, labourers and classes "not stated".

Source: Calculated from *Census of Canada*.

Table 33

## INCREASE OR DECREASE IN THE LABOUR FORCE BY PROVINCES AND REGIONS, 1941-51

	Agriculture, fishing, logging and mining No. %	Manufacturing and mechanical No. %	Trade and finance and service No. %	Trade and finance, service and transportation No. %	Other (construction, clerical, labourers and "not stated") No. %
MARITIME PROVINCES.....	-32,448 -22.2	15,119 40.8	27,618 30.3	41,028 33.4	31,281 49.6
Prince Edward Island.....	- 3,283 -17.8	1,255 87.2	1,907 28.4	2,987 36.4	1,965 62.7
Nova Scotia.....	-17,003 -25.0	7,008 33.1	17,447 35.6	24,008 36.2	15,820 44.7
New Brunswick.....	-12,162 -20.4	6,856 47.4	8,264 23.4	14,033 29.1	13,496 55.0
QUEBEC.....	-54,464 -17.9	82,097 34.0	76,701 24.2	127,627 31.9	127,925 52.7
ONTARIO.....	-70,294 -22.3	115,486 35.9	140,931 36.0	203,581 40.3	181,113 57.8
PRAIRIE PROVINCES.....	-90,743 -20.3	25,269 40.9	49,723 24.4	81,374 31.6	69,213 66.4
Manitoba.....	-22,204 -21.9	10,543 36.9	12,009 17.0	21,475 23.7	23,150 51.2
Saskatchewan.....	-41,400 -21.6	3,003 21.9	5,194 7.6	13,217 15.7	11,446 44.2
Alberta.....	-27,139 -17.7	11,723 60.2	32,520 49.9	46,682 56.7	34,617 104.3
BRITISH COLUMBIA.....	-15,698 -20.6	26,830 56.9	49,637 53.4	72,341 59.2	47,025 68.9
CANADA.....	-263,647 -20.4	264,801 37.3	344,610 31.4	525,951 37.4	456,557 57.7

Source: Calculated from *Census of Canada*.

Table 34

INCREASE OR DECREASE IN THE LABOUR FORCE IN PRIMARY INDUSTRIES  
BY PROVINCES AND BY REGIONS, 1941-51

	Agriculture		Fishing		Logging		Mining and quarrying	
	No.	%	No.	%	No.	%	No.	%
MARITIME PROVINCES.....	- 32,978	-34.3	- 14	—	3,213	18.2	-2,669	-16.8
Prince Edward Island.....	- 3,718	-22.3	378	24.2	50	23.9	7	140.0
Nova Scotia.....	- 14,094	-37.5	- 633	- 5.9	- 196	- 3.5	-2,080	-14.5
New Brunswick.....	- 15,166	-36.3	241	5.5	3,359	28.2	- 595	-37.8
QUEBEC.....	- 59,673	-23.4	- 2,575	-31.6	5,497	18.0	2,287	22.9
ONTARIO.....	- 66,899	-24.8	- 3,158	-49.9	2,647	18.3	-2,884	-11.9
PRAIRIE PROVINCES.....	- 84,393	-20.1	- 6,929	-63.8	64	1.9	515	4.7
Manitoba.....	- 18,452	-20.0	- 3,583	-69.6	- 131	- 8.7	- 38	- 1.7
Saskatchewan.....	- 39,836	-21.3	- 1,311	-48.8	- 310	-33.0	57	6.4
Alberta.....	- 26,105	-18.4	- 2,035	-67.4	505	52.9	496	6.3
BRITISH COLUMBIA.....	- 13,114	-31.6	- 4,167	-44.0	4,898	34.3	-3,315	-30.4
CANADA.....	-257,057	-23.7	-16,843	-32.7	16,319	20.3	-6,066	- 8.4

Source: Calculated from *Census of Canada*.

1931, 1941 and 1951.<sup>5</sup> It is clear that there has been a very considerable re-allocation of resources. One feature of these figures is the decline in the proportion of Canada's labour force which is engaged in the primary phases of the resource industries, the sharpness of the decline in the decade 1941-51 being particularly striking. In Ontario the sharp trend will be seen to extend back to 1931. It will be observed that although the rate of decline has been quite high in the Maritime and Prairie Regions, the proportion of the labour force still engaged in these primary operations remains much higher there than elsewhere in Canada. It might be noted that the re-allocation rate in the Maritime Region from 1941 to 1951 is still above the Canadian average and is almost equal to that of Ontario. The rate of adjustment in Nova Scotia was higher than in any other province.

A second feature of the figures is the steady growth of employment in tertiary industries — trade and finance, personal service and communications. Exceptionally high proportions of the labour force were employed in 1951 in these industries in British Columbia, the Maritime Provinces and Ontario, the trend being most apparent in the Maritime Provinces. In the shorter 1941-51 period the growth of employment in these sectors of the Prairie regional economy appears exceptionally strong.

Employment in manufacturing, which in these figures includes primary manufacturing, has grown in importance in all the regions. Despite the high rate of re-allocation in this direction in British Columbia, the Prairie Region and the Maritimes, the proportion of the labour force engaged in these forms of manufacturing was still considerably lower in 1951 in British Columbia and the Maritime Provinces and very much lower in the Prairie Region than in Ontario and Quebec.

### *Urbanization*

As a reflection of these changes in the allocation of resources, there has been a constant movement of people from rural areas to urban centres. As might be expected, this trend has been stronger in recent years. It has been most apparent in the Maritime Region and in British Columbia. Saskatchewan forms the one exception to this general trend.

### *Newfoundland*

No reference has been made to Newfoundland up to this point in tracing the growth of the regions, for until 1949 this province developed in the context of closer trade ties with the United Kingdom than with Canada. The economy of the province has a long history reaching back to the very origins of North American colonization and settlement, and more recent economic progress has been achieved only after years of protracted difficulties

<sup>5</sup> Some indication of this change on an output basis may be gathered from Appendix C, where the gross value of production figures are tabulated for 1926 and 1953.

and slow growth. From an economy based essentially on fisheries resources, Newfoundland has progressively built up a strong forest products industry and a growing volume and diversity of mineral production. In very recent years the pace of development appears to have increased very considerably. Capital has shown a renewed interest in the resources of the province, and there has been a considerable adjustment in the allocation of the labour force in response to the rising standard of living, improvements in transportation and communication facilities and the expansion of economic activity considered in general. Something of this adjustment can be gleaned from the census figures of 1945-51. It will be noted from Table 36 that over this brief period there was, with the exception of the forest industry, a large exodus from the primary occupations of fishing, hunting and trapping. Later figures would, it is believed, show a further decline in these primary occupations and an even greater increase in primary and secondary manufacturing. The figures are, of course, approximations only.

Table 35

**PERCENTAGE OF POPULATION IN URBAN CENTRES (a)**  
**BY PROVINCES AND REGIONS**

	1931	1941	1951
MARITIME PROVINCES.....	37.8	38.5	46.5
Prince Edward Island.....	23.2	25.6	25.1
Nova Scotia.....	45.2	46.3	53.7
New Brunswick.....	31.6	31.4	41.7
QUEBEC.....	63.1	63.3	66.5
ONTARIO.....	61.1	61.7	70.7
PRAIRIE PROVINCES.....	37.6	38.1	44.8
Manitoba.....	45.1	44.1	56.6
Saskatchewan.....	31.6	32.9	30.4
Alberta.....	38.1	38.5	47.9
BRITISH COLUMBIA.....	56.9	54.2	68.1

(a) The population residing in cities, towns and villages of 1000 or over, whether incorporated or unincorporated, as well as the population of all parts of census metropolitan areas.

SOURCE: Calculated from *Census of Canada*.

Personal income in Newfoundland since 1949, on a constant dollar basis, has risen from \$557 to \$667 per capita. In 1945 the province was well below all other provinces in this regard. But by 1955, although income was well below the Canadian average, it was higher than in Prince Edward Island. It is interesting to note that, although federal government transfer payments were an important factor in this rapid growth of income per capita, these payments in 1955 were lower per capita in Newfoundland than in all the other provinces, with the exception of Alberta, and the proportion of earned income to total income was greater than its average in the Maritime Provinces. The population of the province for the period increased by some 20%, a growth greatly in excess of that experienced by any of the other Atlantic Provinces.

Table 36

# NUMERICAL AND PERCENTAGE DISTRIBUTION OF THE LABOUR FORCE IN NEWFOUNDLAND, 1945 AND 1951

	1945		1951		Increase or decrease	
	No.	%	No.	%	No.	%
All occupations.....	112,508	100.0	106,540	100.0	— 5,968	— 5.3
Proprietary and managerial.....	4,115	3.7	6,829	6.4	2,714	66.0
Professional.....	4,980	4.4	5,468	5.1	488	1.0
Clerical.....	4,824	4.3	6,678	6.3	1,854	38.4
Agricultural.....	4,221	3.8	3,682	3.5	— 539	—12.8
Fishing, hunting and trapping.....	31,198	27.7	18,383	17.3	—12,815	—41.1
Logging.....	7,264	6.4	9,153	8.6	1,889	26.0
Mining and quarrying....	2,001	1.8	2,256	2.1	255	12.7
Manufacturing and mechanical.....	7,229	6.4	8,656	8.1	1,427	19.7
Electric power.....	1,026	1.0	1,533	1.4	507	49.4
Construction.....	6,465	5.7	7,105	6.7	640	9.9
Transportation.....	7,641	6.8	9,684	9.1	2,043	26.7
Communication.....	857	0.8	1,333	1.3	476	55.5
Commercial.....	3,806	3.4	5,566	5.2	1,760	46.2
Financial.....	96	—	109	0.1	13	13.5
Service.....	13,244	11.8	10,470	9.8	— 2,774	—20.9
Personal.....	8,622	7.7	8,480	8.0	— 142	— 1.6
Protective.....	4,309	3.8	1,853	1.7	— 2,456	—57.0
Other.....	313	—	137	0.1	— 176	—56.2
Labourers.....	8,678	7.7	8,549	8.0	— 129	— 1.5
Not stated.....	4,863	4.3	1,086	1.0	— 3,777	—77.7

SOURCE: Calculated from *Census of Canada*, 1951.

Capital invested over the period 1949–56, however, has been relatively low. Except in 1952, it has been consistently well below the average for the Maritime Provinces, in itself a low standard in comparison with the averages of the other regions of Canada. Social capital expenditures have been heavier than investment in the business sector of the economy. By far the largest proportion of this investment has gone into defence and is related to the amounts expended by the United States Forces, whose continuing expenditures constitute a major factor in the provincial economy. A second feature of these expenditures is the large investment in new railroad and highway facilities. Although there was a relatively high investment in new manufacturing plant and equipment in the earlier years of the period 1949–56, there have been large investments over the whole period in the fisheries products industry. These have been designed to improve productivity in the primary catching operations as well as to increase the processing facilities of the industry. Growth has been strongest in the output of fresh- and frozen-fish products as distinct from salt fish. The industry has undergone a fairly

rapid transition in the direction of corporate, as distinct from family or individual, business organization. Concurrently, newsprint capacity has been increased and significant investments have been made in the mining industry of the province. These have included outlays to facilitate new iron-ore and other mineral exploration and development and a doubling of the output capacity of the Wabana iron-ore mines.

## THE FUTURE PROSPECTS OF THE REGIONS

IN TURNING to the future prospects of the regions, it may be advisable to point out that the analysis is largely on a comparative basis. It is not an attempt to measure the absolute economic prospects of each region, but to appraise their relative prospects. It will be readily appreciated that any other approach to the subject would require resources of information, expert advice and time quite beyond those available on this occasion.

As a first step in measuring regional prospects, it may be useful to ascertain the capacity which the various regions have been demonstrating in regard to attracting capital and labour. Of the three production factors of classical economic analysis — capital, labour and land — the first two are more or less mobile, and there is a distinct element of selection in the trends in capital investment and the movement and growth of the labour force. It is proposed therefore to examine the geographical or regional pattern which available statistics reveal on these two subjects. It is recognized that there are imperfections in the capital and labour markets and that these distort the actual potential of the regions. Nevertheless recent trends may form a valuable first comment on the relative regional prospects.

### *Attraction of Capital*

Some indication of the different capacities of the regions to attract capital has already appeared in the chapter on regional economic growth. In that chapter data were given on capital investment in the regions from 1949 to 1956, and some observations were offered concerning differences among the regions in this regard. The latter were based largely on the data which appear in Tables 37A, 37B and 37C. It should be noted that there may be some unequal reporting between regions in regard to capital investment figures, and attention is drawn to the important footnotes associated with the statistics. The figures appearing in the tables represent capital flows or gross additions to capital stock. Unfortunately, there is no information on the total stock of capital by regions. For this reason the chief validity

and usefulness of the figures is their indication of the rate of capital investment in the regions. In order to clarify the relative attraction of the regions to capital, the figures have been calculated on a per capita basis, and the experience of the regions has been related to the Canadian average position.<sup>1</sup> Theoretically, it should be observed, the greater capital intensity of the resource industries would require a slightly higher per capita investment in the outlying regions to equate their position with that of the central provinces, notably with that of Ontario. In these central provinces, it will be recalled, secondary manufacturing has been a much more important factor of economic growth.

The figures show that over the period 1949-56 inclusive total per capita investment has been exceptionally high in British Columbia and in the Prairie Region. Ontario has also shown a relatively strong attraction for capital. Investment in the Province of Quebec has been somewhat below the Canadian average, while it has been exceptionally low in the Atlantic Region, where investment per capita has amounted to less than 60% of the average.

The first sub-total in the table covers what might be broadly termed the commercial or business sectors of the economy, whereas the second sub-total relates more closely to social capital. It will be seen that British Columbia and the Prairie Region have experienced relatively high levels of investment in both of these categories and that in these regions, particularly in the Prairie Region, investment in the business sector has formed a larger proportion of total capital investment than elsewhere in Canada. In the Prairie Region primary industries have proved a particularly strong attraction for capital. Investment in the business sector in British Columbia, on the other hand, has been somewhat more broadly based than in the Prairie Region, being exceptionally high in "utilities", mainly in power production. It will be noted that investment in manufacturing plant and equipment, including in this case primary manufacturing establishments, has also been very high in British Columbia. If the individual Prairie provinces are considered, it is readily apparent that Alberta has held an exceptional position not only in regard to the other provinces of the Prairie Region but in relation to all other provinces. Both Saskatchewan and Manitoba, however, have demonstrated a strong attraction for investment in their primary industries. As noted earlier, the high figures in the Prairie Region reflect extensive investment in agricultural equipment, but they have increasingly been indices of a growing diversification of economic activity

<sup>1</sup> Further development of this subject would probably require an analysis of capital losses. A certain amount of dis-investment is inherent in the process of growth as new industries rise in the place of the older or as the competitive system weeds out the inefficient from the efficient firms. Its significance is considerable, however, where it is more closely related to discontinuance of industries or operations without a corresponding growth in the development of new industries or increased strength in the remaining sections of continuing ones. Data have not been secured on which to measure the regional incidence of this in relation to new capital investment. On the face of things — the closure of mines and the destruction of orchards in Nova Scotia and the closure of textile mills in New Brunswick — dis-investment appears to be of greater significance in the Atlantic Region than elsewhere in Canada.

Table 37A  
CAPITAL EXPENDITURES (a) BY PROVINCES AND REGIONS, 1949-56 INCLUSIVE  
(millions of constant 1949 dollars)

	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Atlantic	Maritime	Quebec	Ontario	Manitoba	Saskatchewan	Alberta (b)	Prairies	British Columbia (c)	Canada
Primary and construction industries (d).....	67.5	33.2	137.0	107.6	345.3	277.8	884.4	1,482.6	406.2	901.8	1,351.6	2,659.7	402.2	5,773.1
Manufacturing.....	67.3	3.7	93.0	82.6	246.6	179.3	1,417.2	2,649.3	124.4	82.3	362.4	569.1	714.9	5,597.6
Utilities (e).....	59.1	13.6	169.5	169.4	411.6	352.5	1,676.8	2,483.3	385.5	419.3	498.0	1,302.8	1,063.4	6,937.9
Trade, finance and commercial services.....	35.1	11.8	89.3	66.2	202.4	167.3	628.9	1,340.2	155.8	134.6	277.3	567.7	307.1	3,046.1
Sub-total—business investment (f).....	229.1	62.4	488.8	425.9	1,206.2	977.1	4,607.5	7,955.3	1,071.6	1,538.2	2,489.3	5,099.2	2,487.6	21,355.2
Housing.....	229.3	55.1	148.8	154.4	1,118.9	889.5	1,964.2	2,730.7	334.6	241.3	627.8	1,203.7	721.2	7,030.1
Institutions and government depts. (g).....			287.8	243.4			1,662.9	2,094.1	320.9	298.5	810.1	1,429.5	694.2	6,589.9
Sub-total.....	229.3	55.1	436.6	397.8	1,118.9	889.5	3,627.0	4,824.8	655.5	539.8	1,437.8	2,633.2	1,415.4	13,620.0
Total.....	458.5	117.5	925.4	823.8	2,325.2	1,866.7	8,234.5	12,780.1	1,727.2	2,078.2	3,927.4	7,732.8	3,903.1	34,975.4

Table 37B

## CAPITAL EXPENDITURES PER CAPITA, 1949-56 INCLUSIVE

	New- found- land	Prince Edward Island	Nova Scotia	New Brun- swick	Atlantic	Marl- times	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta (b)	Prairies	British Colum- bia (c)	Canada
Primary and construction industries.....	178	329	208	202	206	214	209	306	505	1,053	1,340	997	325	394
Manufacturing.....	177	36	141	155	147	139	335	547	155	96	360	213	578	382
Utilities.....	156	134	257	318	246	273	396	513	479	490	494	488	860	473
Trade, finance and com- mercial services.....	92	117	135	124	121	129	148	277	194	157	274	213	248	208
Sub-total — business investment.....	603	618	741	801	721	756	1,088	1,643	1,333	1,797	2,467	1,911	2,013	1,457
Housing.....	603	546	225	290	669	688	464	564	416	282	622	451	583	480
Institutions and govern- ment depts.....			436	457			393	432	399	349	803	536	562	450
Sub-total.....	603	546	661	748	669	688	856	996	815	631	1,425	987	1,145	929
Total.....	1,207	1,163	1,402	1,548	1,390	1,444	1,944	2,639	2,148	2,428	3,892	2,897	3,158	2,386

# INDEX OF CAPITAL EXPENDITURE PER CAPITA, 1949-56 INCLUSIVE

(Canada=100)

	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Atlantic	Maritime	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Prairies	British Columbia (c)	Canada
Primary and construction industries.....	45.2	83.9	52.8	51.3	52.3	54.3	53.0	77.7	128.2	267.3	340.1	253.0	82.4	100.0
Manufacturing.....	46.3	9.4	36.9	40.6	38.4	36.4	87.7	143.2	40.6	25.1	94.2	55.8	151.3	100.0
Utilities.....	33.0	28.3	54.3	67.2	52.0	57.7	83.7	108.4	101.3	103.6	104.4	103.2	181.8	100.0
Trade, finance and commercial services.....	44.2	56.2	64.9	59.6	58.2	62.0	71.2	133.2	93.3	75.4	131.7	102.4	119.2	100.0
Sub-total — business investment.....	41.4	42.4	50.9	55.0	49.4	51.9	74.7	112.8	91.4	123.3	169.3	131.2	138.2	100.0
Housing.....	64.9	58.8	46.9	60.4	72.0	74.0	96.7	117.4	86.7	58.7	129.6	94.0	121.4	100.0
Institutions and government depts.....			96.9	101.6			87.3	96.0	88.7	77.6	178.4	119.1	124.9	100.0
Sub-total.....	64.9	58.8	71.1	80.4	72.0	74.0	92.0	107.1	87.6	67.8	153.4	106.2	123.3	100.0
Total.....	50.6	48.7	58.8	64.9	58.3	60.5	81.4	110.6	90.0	101.8	163.1	121.4	132.4	100.0

(a) Figures are gross expenditures on new durable physical assets (including outlays on construction, machinery and equipment) for the years 1949-54 inclusive. They do not include outlays on repair and maintenance, purchases of existing assets or investment in inventories.

(b) Includes the Northwest Territories.

(c) Includes the Yukon Territory.

(d) Includes agriculture, fishing, forestry, mining, quarrying and oil wells.

(e) Principally central electric stations, railways, telephones, oil and gas pipelines and municipal waterworks. Includes publicly-owned enterprises.

(f) Includes publicly-owned commercial enterprises.

(g) Institutions are largely churches, schools and hospitals. Outlays of government departments include outlays on new defence installations (but not expendable equipment), public buildings, streets, highways and bridges by federal, provincial and municipal governments.

SOURCE: Calculated from figures supplied by the Department of Trade and Commerce.

reflecting, in particular, investment in the oil and gas and related developments. The Alberta figures show a strong investment trend in manufacturing and in the service industries.

In Ontario also, investment in the business sector of the economy has formed a higher-than-average proportion of total investment and has been exceptionally high in manufacturing — in this case mainly in secondary manufacturing — and in the service industries. As these industries are less capital-intensive than the resource industries, the figures somewhat understate the position of Ontario. This qualification also applies, although less so, in regard to Quebec.

In Quebec and the Atlantic Provinces the proportion of total capital investment in the business sector has been less than average, being only slightly above 50% of the total in the instance of the Atlantic Provinces, while the Canadian average has been over 60%. It will also be noted that business investment, averaged over the four Atlantic Provinces, has been less than 50% of the Canadian average in these provinces over the period and less than 52% in the case of the three Maritime Provinces. Institutional and government investment was obviously a very important element in the investment picture of the region, and in this category the disparity is considerably less than in the case of other forms of investment. Of the four provinces comprising the Atlantic Region, New Brunswick shows a slightly better position than the other provinces, but there is a considerable gap between the two provinces showing a relatively higher rate of investment — Nova Scotia and New Brunswick — and those showing a lower rate — Prince Edward Island and Newfoundland. As noted earlier, when the provincial figures are reviewed on a year-to-year basis, it is apparent that New Brunswick has shown a considerably improved position in the past few years.

These per capita investment figures, for present purposes, should be set in the context of the average rate of population growth over the period, for it will be readily appreciated that differing rates of population growth will be reflected in the per capita investment figures. Where population growth has been relatively higher, the figures will tend to understate the relative attractiveness of the region; conversely, they will tend to overstate the situation where population growth has been slow. Population growth rates have been as shown in Table 38.

Some allowance for the difference in population characteristics among the regions, notably age-groupings, should be made in assessing the significance of these investment figures. Some further observations on investment can be offered when investment is related to the labour force rather than to population as a whole. In this instance it is pertinent to take the figures covering investment in the business sector of the economy rather than total investment. In this way some insight may be gained as to tools being placed at the disposal of the labour force in the different regions.

Table 38

### RATE OF GROWTH OF POPULATION BY REGIONS, 1949 TO 1956

ATLANTIC PROVINCES.....	11.9
Newfoundland.....	20.3
Prince Edward Island.....	5.3
Nova Scotia.....	10.4
New Brunswick.....	9.3
QUEBEC.....	19.2
ONTARIO.....	23.4
PRAIRIE PROVINCES.....	15.4
Manitoba.....	12.3
Saskatchewan.....	5.9
Alberta.....	26.9
BRITISH COLUMBIA.....	25.6

Table 39

### REGIONAL BUSINESS INVESTMENT PER CAPITA AND PER MEMBER OF THE LABOUR FORCE, 1956, AS A PERCENTAGE OF THE NATIONAL AVERAGE

	Per capita	Per member of the labour force
Atlantic Provinces.....	47.7	55.2
Quebec.....	73.6	76.5
Ontario.....	106.8	97.7
Prairie Provinces (a).....	132.3	132.8
British Columbia (a).....	161.8	170.9

(a) The per-member-of-the-labour-force figures are slightly inaccurate, as the investment figures for British Columbia include the Yukon and for the Prairie Provinces include the Northwest Territories.

SOURCE: Calculated from figures supplied by the Department of Trade and Commerce and from *Census of Canada, 1956*, and *The Labour Force*, July 1956.

It will be seen from Table 39 that the picture does not change in any marked degree. The general effect is to moderate the low position of Quebec and the Atlantic Provinces, boost that of British Columbia and lower the standing of Ontario. It should be noted, however, that this yardstick — investment per member of the labour force — tends to cause distortions as do the per capita figures. The labour force participation rate in Ontario, for example, is higher than elsewhere in Canada, reflecting a higher percentage of the population in the economically active age-groupings in Ontario and the distinctly greater employment opportunities for those of working age. It follows that investment measured in relation to the labour force would tend to understate the position of Ontario relative to, say, the Atlantic Provinces. Conversely, the smaller proportion of people of working age relative to total population and the lower percentage of active participation in the labour force by those of appropriate ages in the Atlantic Provinces

can lead to an overstatement of investment in those provinces. Again, the British Columbia figures are clearly affected by the high proportions of

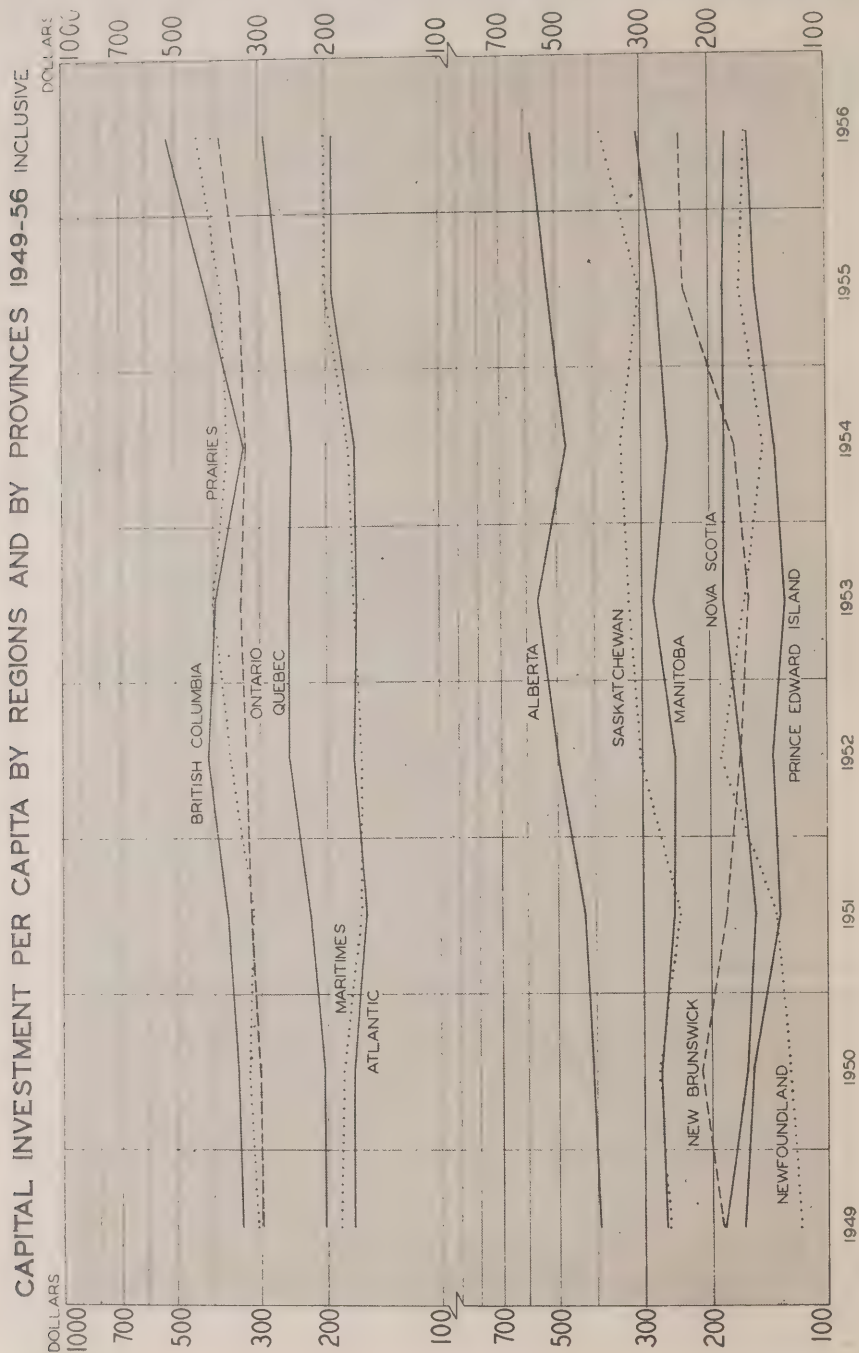


Table 40

## NEW CAPITAL INVESTMENT, NEW MANUFACTURING PLANTS AND EMPLOYMENT, BY REGIONS, 1946-53

Region	Regional distribution of population	New capital investment (a)		New plants		Employment in new plants		Total manufacturing employment	
		\$ millions	% of Canada total	No.	% of Canada total	No.	% of Canada total	No.	% of Canada total
Atlantic Provinces	12	223.0	4	113	5	6,042	5	70,900	5
Quebec.....	29	1,413.4	27	858	38	41,683	32	445,600	34
Ontario.....	33	2,669.3	50	857	38	62,405	49	630,000	47
Prairie Provinces....	18	433.8	8	216	9	9,412	7	89,000	7
British Columbia....	8	569.6	11	225	10	8,554	7	90,000	7
Totals.....	100	5,309.1	100	2,269	100	128,096	100	1,325,500	100

(a) In current year undeflated dollars and with federal government capital assistance included.

SOURCE: The official handbook, *Canada 1954*.

older, retired people in the province. On balance, the improved position of the Province of Quebec appears to be the most valid item of the tabulation.

The relative attractiveness of the regions to capital in general is perhaps most clearly revealed in Chart IX, which traces total investment per capita by regions over the period 1949-56 inclusive and also depicts the position of the individual provinces of the Prairie and Atlantic Regions.

A further series of figures published by the Department of Trade and Commerce covering investment in new manufacturing plants in the period 1946-53 is somewhat indicative of the relative capacity of the regions to attract capital. Manufacturing in this series covers both primary and secondary manufacturing. The figures must be treated with caution, as they exclude firms employing fewer than 15 persons and consist in part of estimates rather than of actual information.

It will be seen from Table 40 that the regions again show considerable differences in attracting investment in new manufacturing plant. Ontario holds a strong lead over the other regions, and the two central provinces — Ontario and Quebec — together hold a strongly commanding position, with nearly 80% of this type of investment in the period 1946-53. The Atlantic Provinces and the Prairie Provinces have proved the least attractive to this type of capital investment.

### *Attraction of Labour*

Some indications of the relative attractiveness of the regions to labour have already appeared in the earlier review of regional economic growth. Over the period covered in that analysis it was seen that the labour force increased at a much slower rate in the Prairie Region and in the Maritime Provinces, in that order, than elsewhere in Canada. It was noted that these regions were net contributors by migration to the population growth of the other regions, and that the other regions and Alberta within the Prairie Region, have been able to attract a much greater proportion of those immigrating into Canada. It was noted also that the labour force participation rate had risen to an exceptional height in Ontario by 1955, had remained constant at about the Canadian average level in Quebec, declined in the western regions to somewhat below the Canadian average and remained at an exceptionally low rate in the Maritime Region. The resultant redistribution of Canada's labour force among the regions over the period 1931-55 is shown in Table 41.

The examination of the relative attractiveness of the regions to capital was limited to the brief period for which statistics were available, namely, 1949-56. It may be desirable therefore, to consider some of the data on the labour force over a comparable period and to compare the shorter term figures with longer term trends.

Table 41

### REGIONAL DISTRIBUTION OF CANADA'S LABOUR FORCE 1931 AND 1955

	1931		1955	
	No.	%	No.	%
Maritime Provinces.....	352,684	9.0	419,000	7.6
Quebec.....	1,022,164	26.1	1,586,000	28.8
Ontario.....	1,345,581	34.3	2,048,000	37.2
Prairie Provinces.....	895,234	22.8	992,000	18.0
British Columbia.....	306,170	7.8	460,000	8.4
Canada.....	3,921,833	100.0	5,505,000 (a)	100.0

(a) Excludes Newfoundland.

SOURCES: *Census of Canada*, 1931, and *The Labour Force*, June 1955.

Table 42

### REGIONAL GROWTH OF THE LABOUR FORCE 1931-55

	1931-55	1949-55
	% increase	% increase
Maritime Provinces.....	18.8	— 2.6
Quebec.....	55.2	10.9
Ontario.....	52.2	12.2
Prairie Provinces.....	10.8	3.1
British Columbia.....	50.2	3.6

SOURCE: See Table 41 and *The Labour Force*, Reference Paper No. 58.

Table 43

### NET MIGRATION BY PROVINCES AND REGIONS

	1931-55 as a percentage of 1931 population	1949-55 as a percentage of 1949 population
MARITIME PROVINCES..	-13.4	-3.9
Prince Edward Island.....	-16.5	2.2
Nova Scotia.....	-10.5	-4.3
New Brunswick.....	-16.4	-4.6
Newfoundland.....	—	0.6
QUEBEC.....	1.4	2.4
ONTARIO.....	17.2	8.2
PRAIRIE PROVINCES.....	-20.6	0.6
Manitoba.....	-14.3	0.7
Saskatchewan.....	-40.1	-7.7
Alberta.....	- 2.2	6.5
BRITISH COLUMBIA.....	54.4	8.7

SOURCES: Calculated from *Vital Statistics*, 1953, and figures supplied by the Dominion Bureau of Statistics.

Table 44

### LABOUR FORCE PARTICIPATION RATE (a) BY REGIONS 1931, 1951 AND 1955

	1931	1955	1951	1955
Maritime Provinces.....	51.0	47.4	49.7	48.6
Quebec.....	53.4	53.4	53.4	53.4
Ontario.....	53.1	56.2	55.1	56.2
Prairie Provinces.....	55.2	52.4	52.4	52.4
British Columbia.....	57.2	50.8	50.8	50.8

(a) The labour force participation rate represents the percentage of that portion of the civilian non-institutional population of working-force age who are working or actively seeking work.

SOURCE: See Table 41.

Table 45

### REGIONAL DISTRIBUTION OF IMMIGRANTS TO CANADA BY PROVINCES OF DESTINATION, 1946-55 INCLUSIVE (a)

	% of Canada total
MARITIME PROVINCES.....	3.2
Prince Edward Island.....	0.2
Nova Scotia.....	1.9
New Brunswick.....	1.1
QUEBEC.....	19.7
ONTARIO.....	52.1
PRAIRIE PROVINCES.....	16.0
Manitoba.....	5.1
Saskatchewan.....	3.1
Alberta.....	7.8
BRITISH COLUMBIA.....	9.0

(a) Excluding Newfoundland.

SOURCE: Calculated from figures supplied by the Department of Citizenship and Immigration.

The main effect of these tables is to focus attention on the Prairie Region and the attraction for labour which these provinces have shown in recent years. The recent figures indicate a reversal of the trend of the past 20 years, during which the progress of the region was so strongly identified with the rationalization and improved productivity of agriculture. Recent changes reflect a further diversification of the economy.

The application of these two yardsticks — the relative attractiveness of the regions to capital and to labour — may be useful in assessing future regional prospects. The results, however, can be taken only as suggestive. It is important also to distinguish, especially in regard to the labour force, between prospects of increased activity and increased income. A high rate of

capital investment and a slower increase or even a numerical decline in the labour force may presage a period of highly satisfactory growth in productivity and income per capita. Where a region is evidencing a strong attraction for both capital and labour there is the suggestion of a further dynamic, an apparently self-generating growth factor, relating to a rising population and higher incomes from increased productivity.

As the foregoing figures may represent only a temporary phase, it would seem desirable to proceed from this point to an examination of the prospects of the regions in terms of their natural resources and other factors of potential growth.

### *Natural Resources*

In turning to the third factor of production, land or natural resources, it is obvious that it would be impossible to do more than assess the regional implications of the expansion which can be anticipated in Canada's resource industries. Any other appraisal would produce little more than a catalogue of resources having little bearing on future economic activity and production of wealth. It is well known that there are latent agricultural land and mineral resources, for example, in all the regions. Whether these will be brought into use in the near future in any one region will depend on the competitive position. In the normal course of events the determinants will be the relative quality of the resources themselves and their strategic position in relation to markets and other allied factors affecting industrial location. It will be recognized that there are serious deficiencies in such an approach, for in many instances — as in the case of mineral resources, for example, the position frequently changes as new resources are discovered, and there are many reasons to believe that the unfolding nature of the story will continue to change the pattern of development. Other factors, such as technological changes, will also affect any assessment made at any one point of time. These factors are, of course, integral to the whole forecast of industrial development and not peculiar to any regional study. The regional implications of new discoveries or the introduction of other new factors which could not be anticipated, more seriously affect any forecast, particularly in areas where the total volume of activity is more restricted. Recent base-metal discoveries in New Brunswick offer a pertinent example of such a situation. In full recognition of these and other problems, it is proposed to consider the relative prospects of expansion in the resource industries in the different regions. In this regard, particular attention has been given to the various studies made on behalf of the Commission.

### *Agriculture*

The Commission's study on Canadian agriculture indicates that the agricultural products industry is destined to participate to a great degree in Canada's future economic growth. This expansion is expected to develop largely in response to a growth of Canadian domestic demand for foods.

The growth of population is particularly important here, for demand for Canadian agricultural products will not rise in proportion to the increase in per capita incomes. Higher incomes, however, will have some effect on the over-all level of consumption and will strongly influence the pattern of demand. Improved productivity, obtained mainly through expansion of output as a result of better practices and adjustments in farm organization rather than through substantial increases in the amount of land devoted to agriculture, is expected to be the industry's chief response to the increased demand for its products. Thus no marked change is anticipated in the trend of the industry toward higher capitalization and more intensive farming. An expected further decline in the number of farms in Canada will be accompanied by increases in the average acreage per farm. International markets are regarded as likely to decline in relative importance to the industry, but little change is looked for in the actual volume of agricultural exports. Since much of the increased production is foreseen as coming from improved productivity per man, employment in agriculture is not considered likely to increase in proportion to the rise in output. In some sectors of the industry and in some areas, in fact, declines can be expected. The indications are that there will be a continued decline in subsistence farming. Part-time farming will continue to grow, the greatest increases occurring in central Canada and British Columbia.

The central provinces — Ontario and Quebec — may be expected to feel most directly the impact of increased demand for agricultural products based on the growth of Canada's population and rising incomes. As noted elsewhere, these provinces contain the largest proportion of Canada's present population, and this concentration can be expected to continue. In perishable and less transportable farm products the regional agricultural industry has a strong comparative advantage in serving these markets, and this factor will exert an overwhelming influence in the future. The necessary increase in production is considered likely to come from more intensified farming rather than from an extension of farm acreage. A limited net extension of arable land is possible in both Ontario and Quebec, but the essential feature is that it will be more economic to increase the proportion of improved land in the settled agricultural areas and to secure greater yields on present farm lands through increased productivity. This increase can arise from a wide application of improved agricultural technology in association with the optimum combination of capital, management and unit size of farm. Associated with this will be greater specialization in specific crops. Past trends suggest that the incidence of such strictly commercialized and specialized farming will tend to be in Ontario and southern Quebec. There are a larger number of areas in Ontario in which the combination of climate, soil and farming experience are favourable for these crops. This development of production through more intense farming and growth in labour productivity will receive additional impetus as land values rise. Of considerable significance from the aesthetic and perhaps sentimental

point of view, and of certain economic significance to agriculture, will be the substantial further encroachment of industry upon the fertile fruit lands of the Niagara peninsula. Elsewhere in the province, industrial and residential areas will displace land now used for agriculture. The aggregate loss in agricultural output due to these developments will be small, however, in relation to the over-all farm output.

In Ontario, the most significant growth of agriculture in absolute terms is likely to be in dairying and livestock production. Expansion of dairy products will be required to meet the growing market for whole milk, and there may be a general shift away from creamery products and cheese. If this trend develops, an increasing proportion of Ontario farm land will have to be used for pasture, hay and other forage crops. The increasing production of dairy products, hogs, and poultry will lead to a greater reliance of Ontario agriculture on coarse grains from the Prairie Provinces. It is anticipated that vegetable production, which is relatively labour-intensive, will continue to show growth in respect of both volume and labour productivity. Fruit production may decline relatively, owing to the loss of land in some of the areas most favourable to this type of activity and to the reasonable expectation that the United Kingdom demand for apples will not increase and that there will be a decline in apple consumption per capita in Canada. In consistency with a growing economy and a profitable agricultural industry, some shift of the Ontario agricultural labour force to the other sectors of the economy is to be expected. This shift will nevertheless be accompanied by a substantial growth in agricultural production.

Some distinguishing features in Quebec agriculture are of significance. The province has no agricultural areas comparable to the Niagara peninsula; and although the St. Lawrence lowlands are highly fertile, Quebec agriculture includes large areas devoted to small-scale farming. In addition, a considerable section of the agricultural economy consists of subsistence farms, among many of which income from forestry or fishing is of equal, if not greater, significance than farm income. The present trend in Quebec toward increased production of livestock and livestock products is expected to continue, and Quebec will retain its position as the leading province in the output of dairy products. It is foreseen that Quebec will share with Ontario the general trend toward an increased use of land for pasture and greater dependence on western grains. Family farming occupies an important place in the social and cultural traditions of Quebec. This will influence the trend in respect of the number of farms. It will also tend to favour the development of labour-intensive enterprises, with the result that fruit production may increase appreciably. Recent trends indicate that farm productivity in general will make substantial strides in the province. It is foreseen that the industrial growth of the province will diminish the number of small-scale full-time farms, but the increasing recognition of the possibility of improving farm income from forest products, as farm

woodlots are more carefully integrated with the requirements of the pulp and paper industry, also suggests a substantial improvement in the income position of such farms. As a natural corollary of the forward strides of the industry, there will be some decline in the farm labour force.

Agriculture in the Prairie Region, it has been noted, will feel the impact of Canada's population growth both directly and indirectly. There will be an increased demand from eastern Canada and British Columbia for feed grain. The prospective domestic demand for food implies an increasing production of livestock and livestock products in the region to meet the increased demands of other Canadian regions as well as increased local consumption. The region's advantage over other Canadian agricultural regions in the growing of small feed grains provides the basis for a greatly expanded production of hogs and other livestock. This may be associated with the development of the primary processing of such products, a matter which depends partly on the initiative of the region but also, to a considerable extent, on transportation developments and policy in respect of federal government assistance in the interregional movement of coarse grains. Development of livestock production will influence the extent to which there is an increase in farm acreage in the region, for there are still large areas of unused agricultural land which, under pressure of demand, could be used for pasture and production of forage. These are the grey-wooded soils on the northern fringe of the so-called parkland areas of the provinces. The greatest extent of these soils lies in Alberta.

These activities, however, will be secondary to wheat production for some time to come, for no great change is contemplated in the allocation of land to grain and, in particular, to wheat production. Even though international markets cannot be assumed to offer an outlet for greatly expanded wheat production, the market prospects and the comparative advantage of the region appear to warrant the belief that the area now devoted to wheat production will continue under that form of agriculture. The first withdrawals of land from the present wheat areas may result from some slight encroachment on marginal wheat lands from an extension of ranching. The pressure of increased efficiency is likely to strengthen the trend of the main wheat areas toward larger farm units, greater capital intensity and improved technology, with the result that a relatively smaller labour force will be required to sustain the volume of production. As livestock farming is somewhat more labour-intensive, any extensive development of this form of activity, a possibility already noted, would tend to slow down the rate at which labour is withdrawn from the agricultural sector of the regional economy. Even if allowance is made for such an event, it is generally believed, however, that the regional agriculture, by reason of its grain efficiency, will require substantially less man-power than its present agricultural labour force. It has been suggested that the decline will be as high as 50,000 over the next 25 years. A progressive

alignment of important sections of the regional agriculture with the Canadian market will reduce the vulnerability of the area to fluctuations of the international market. The hazards of weather are an inevitable feature of farming, but some prospects of further stability in this regard are inherent in these growing aspects of diversity of agricultural activity and in further innovations in irrigation.

One of the outstanding features of the Prairie economy as a whole has been its capacity for adjustment to technological change. Part of the secret of this success undoubtedly lies in the nature of its agriculture. As already noted, climate, soil and topography combine in large sections of the region to favour highly-mechanized large-scale production of grains. This part of the industry is capital-intensive, with a relatively rapid turnover of capital, and operations are on a cash basis. In more recent years alternative employment opportunities associated with industrial growth within the region and elsewhere in Canada, in forcing up the price of agricultural labour, made mechanization essential, while rising prices and income made its application possible. Such conditions are conducive, among other things, to labour mobility. This is a feature of some significance in any consideration of the contrasting situation in certain areas of other regions, notably in the Atlantic Provinces.

The large population increase forecast for British Columbia has important implications for the prospects of the agricultural products industry of that province. Centred in the Vancouver area, this greater population will provide the basis, for the immediately adjacent farmland areas, of a greatly increased internal demand for dairying, poultry production and specialized horticulture. Agricultural development, in this instance, is likely to be intensive in nature. An increased demand for meats on the other hand is expected to be reflected in the more outlying areas — in the form of greater production of cattle in the southern interior plains, with an overflow to the more northerly parts of the interior of the province. Much of the farming in the new areas of the northern interior will, however, be of a general nature, and a broad expansion can be expected on the basis of the available land resources and the extension of railway facilities to these areas. A rising local and Canadian market for the special fruits of the province is expected to foster a progressive development of capital-intensive, relatively small, specialized farming on the coastal plains and in the river valley areas. As already noted, the land resources of the province are somewhat limited in regard to these areas of specialty crops, and the expansion will require an extension of irrigation on a basis which allows for competition with comparable areas across the United States border. Although there may be a decline in the agricultural labour force of the province, this will not be very apparent in the near future. British Columbia agriculture, it has been noted, is somewhat unique in that in recent years there has been a considerable increase in the number of small farms. This reflects in part a high degree of specialization. It represents also an adjustment

to the prevailing high cost of farm labour and a growth in part-time farming, often associated with retirement from other occupations and the use of pensions as supplementary farm income. There is little reason to believe that there will be any great reversal of this trend.

The diversity of conditions in the Atlantic Provinces makes it difficult to deal with the four components as an agricultural unit. The arable land is severely limited in Newfoundland, in respect both of quantity and of quality, and the climatic conditions of a short, cool and relatively moist summer make it necessary to limit the forecast to a small, although perhaps important, expansion. Farming in the province has been typically small-scale in nature and in many instances has been supplementary to fishing, logging or other commercial activities. The growth and increasing urbanization of the population will favour the development of more intensive specialized farming adjacent to these urban areas, with concentration on the production of poultry, vegetables, small fruits and milk, and on fur farming. Dairy production may be associated with some cattle-raising if experimental work on the use of the ubiquitous bogs so characteristic of the island establishes the possibility of raising forage crops in these areas. It would appear, however, that Newfoundland will continue to import its major food requirements.

Agricultural land resources in Prince Edward Island, on the other hand, are more extensive in relation to the provincial land area than in any other province of Canada. No province in Canada depends so much on agriculture for its income as Prince Edward Island. Its red soils, formed from soft sandstones, are not particularly deep or fertile in many areas; but over large sections, where attention has been paid to the maintenance of humus content, the response of the soils to modern farming technology has been highly satisfactory. The relative position of population to provincial arable land resources has progressively influenced agricultural activity in the direction of intensified farming. The lack of a large concentration of industrial population in the Atlantic Region has tended to foster generalized rather than specialized farming. At the same time there has been emphasis on quality production, notably in seed potatoes and hog-breeding stock. This emphasis reflects in part an effort to secure premium prices for products which have to absorb transportation costs over long distances to central Canadian or foreign markets. Currently, there is a trend toward the growth of vegetables and small fruits for local processing. Although farming in Prince Edward Island is generally a relatively small-scale operation, there has been in recent years an increase in farm unit size accompanied by a growth in capital intensity. The growth of population in the Atlantic Region, associated in part with an expansion of military bases, and in adjacent areas of Quebec on the northern shores of the St. Lawrence permits a forecast of expanded farm production and of improved farm incomes. There will be a continued shift from the more marginal subsistence farming,

but the generalized nature of production will continue. There is some reason to believe that farm income may increase in some areas of the province from an improved use of farm woodlots, although the full benefits of current reforestation programmes under the Canada Forestry Act will be realized only over a longer period. Special considerations relating to tariffs and transportation are intimately connected with a forecast expansion of production of the special quality products of the island. The general trend of the industry toward high productivity suggests that the farm labour force will decline over a period and that the unit size of the farm in the province will increase.

The growth of population in New Brunswick and Nova Scotia will continue to raise the demand in these provinces for perishable and non-transportable farm products. It is expected that this increased demand, in conformity with the general pattern of agriculture, will be met by increased productivity from more highly capitalized intensive farming accompanied by a reduction in the number of farms and an increase in the unit size of the farm. Declining per capita consumption of potatoes and other factors make it difficult to expect further growth of specialized potato production, and it is not possible to assume a restoration of the United Kingdom market for Canadian apples. In view of this, it is likely that there will be continued diversification of farm activity and that the cultivation of other fruits will become characteristic of the apple-growing areas of the region.

Both provinces sustain a relatively high proportion of marginal and subsistence farming, but the trend away from this form of agriculture, if it can be so called, has been strong over the past few years, and under certain conditions can be expected to increase. In part, this will lead to an increase in the unit size of the farm as these holdings are consolidated. The net result also may be a considerable reduction in farm-land acreage, as some of these lands are diverted to the forest products industry. Income from forest products, which already forms a higher proportion of farm income in these provinces than elsewhere in Canada, may also increase farm income substantially in the event that the process of adjustment enhances the productivity of farm woodlots.

Although there may be a substantial contraction in land devoted to farming in the two provinces, the continued reclamation of the marshlands and land along the river valleys through increased flood control will add valuable acreage to farm land. This will constitute the basis of considerable diversity in agricultural production but will have its most important effect in respect of increased production of beef-cattle. One of the natural advantages of the area in agriculture is its capacity to grow grass and other forage crops. Given adequate capital and transportation improvements, it is reasonable to expect that this trend of the area toward increased beef production will persist, at least until the output is sufficient to supply the present deficiency in meat production within the region. On the same assumptions,

it is likely that there will be some processing of such products. Further growth in specialized production, such as that of poultry and eggs, would accentuate the general trend toward higher productivity. Arising out of this and a progressive abandonment of subsistence farming, a considerable reduction in the agricultural labour force can be anticipated.

It is readily apparent from this summary review that there is more need to temper optimism with regard to agricultural growth in the case of the Atlantic Provinces than in the instance of the other regions. Population growth will be slower in the Atlantic Region, and, on the basis of present information, it is not possible to forecast the growth of large industrial centres there. The probability of continued difficulty in securing access to foreign markets and the lack of any pronounced advantage in the agriculture of the region by comparison with the central Canadian provinces, which would offer encouraging prospects of increased production to meet growing Canadian food requirements, suggest a slow rate of agricultural expansion and continued adjustments within the industry. Any assessment of future prospects must also take into account that the industry has suffered serious capital depreciation in recent years and that it has no backlog of prosperity from which to draw the capital it needs to facilitate these further adjustments.

### *Forest Products*

Canada, insofar as forest products are concerned, faces the future from a position of strength. In the first place the Canadian forests represent one of the primary resources of the world. Canada has vast areas of softwoods and some valuable, if less extensive, hardwood resources. In most instances these are combined with water resources suitable for transportation of the wood to processing plants, for the production of the power required for these plants and for the manufacturing processes involved. In addition, there are large areas of forest lands which can be brought into production if market conditions warrant the provision of the necessary transportation facilities or which will become available as other developments provide the necessary additional stimulus for these facilities. Moreover, technological innovations are proving favourable to forest resources. Recent developments in the use of hardwoods for pulp and paper and industrial chemical purposes add to the resources of the country to a considerable extent, for in many instances Canadian hardwoods have been inadequately used. New mechanical methods of cutting and hauling, debarking and chipping are contributing to increased use of the whole tree, lessening the seasonal nature of the industry and thus adding greatly to the productivity of the forests. A further latent reserve consists in the possibility of expanded wood production from farm woodlots. Competent foresters estimate that supplies from this source of supply could be doubled in some areas. The prospects of increased forest yields through improved fire and pest control are also significant.

In the second place, Canada over the years has acquired not only large capital investment in its forest products industry but a high degree of the required industrial skill. This is a feature of growing significance, for Canada has now reached the point where the forest products industry is rapidly moving from an earlier stage of forest exploitation to one of forest management. Thus the potential of Canadian forests has to be measured by their capacity to supply wood products on a perpetual basis rather than by an assessment of the capital stock of trees in Canada. Moreover, the Canadian forest products industry has established a wide diversity of activity. It has grown from the more primitive stage of production of fuel and crude sawn lumber to an advanced stage of capital-intensive production of newsprint and other papers, pulp and industrial chemicals as well as plywood and high-grade lumber products in general. The industry thus operates from a broad base. From this vantage point it faces an increased world requirement for its products. This requirement finds expression not only in the increased demand forecast for the North American continent, in particular for the United States, but also in the demand of Europe and other parts of the world. It is not to be expected that Canada will occupy a unique position in respect of these markets or that expansion will be without fluctuations or independent of wise management. The Canadian position, however, is sufficiently strong to warrant some confidence that expansion will continue in spite of growing world production and increased international competition.

Some of the problems of measuring the extent to which the regions will participate in this programme of expansion are discussed in considerable detail in the Commission's study, *The Outlook for the Canadian Forest Industries*. The report indicates that all regions will experience considerable growth of their forest products industries. It is expected that total production in the Atlantic Provinces will expand by some 30% over the next 25 years, the larger proportion of the increase arising out of greater production of pulp and paper. Output in Prince Edward Island is expected to remain approximately at its present level. Newfoundland's resources are estimated to be sufficient for an increase in pulpwood production equivalent to the requirements of a newsprint mill, or approximately 200,000 cords annually, as well as for some increase in lumber production. The expansion of existing pulp and paper mills and the establishment of several new plants are considered feasible in New Brunswick and Nova Scotia. Although some increase in lumber production can be looked for, the general expectation is that expansion in pulp and paper production will be a much more vital factor in the future growth of these provinces. The report noted that the forests of the Maritime Provinces are in an understocked condition resulting from their long logging history and from fire and insect attacks. This accounts in part for the lesser extent to which these provinces are expected to participate in the immediate expansion of Canada's forest products industry.

Taking Quebec and Ontario together, the report anticipates a 50% increase in the total production of the forest products industry by 1980. Allowance being made for a decline in fuelwood, which is expected to prevail in all regions, this is taken to mean a possible two-thirds increase in lumber and pulp and paper production. Relative price levels will be an important determinant as to whether expansion is more or less related to pulp and paper or to lumber production. While expansion in existing plants will account for a large percentage of increased pulp and paper production in Quebec, new areas to the north and in the eastern water sheds of the north shore of the St. Lawrence are expected to contribute substantially to the increase in production. The addition of new forest areas to the commercial forests of the present is also expected to be a factor in the production increase in Ontario, and new pulp and paper mills will add to the expanding capacity of the existing industry.

For its purposes, the Commission's study on the forest industries included the forest areas of the Yukon and Northwest Territories with the Prairie Region. On this basis this northern area is estimated to contain more than one-quarter of Canada's accessible productive forest areas. On this basis again, the forecast was for a doubling of lumber output, while pulp and paper production was expected to increase by a factor of six or seven. The forest resources of the Prairie Provinces themselves warrant the belief that the forest products industry will prove a progressively important dynamic of the Prairie Region.

It is predicted that by 1980 the industry in British Columbia will have expanded its output by some 60%, pulp and paper production expanding at a faster rate than lumber production. The veneer and plywood industry is expected to play an important part in this expansion. In the course of this development, the forest resources of the interior will become an important factor in the industry, primarily as the basis of increased lumber production but also as the source of new pulp and paper capacity.

### *Fisheries*

The Canadian fisheries industry is based on resources which will permit its substantial growth. On both the east and the west coasts of Canada there are continental shelves projecting into the sea; and the coastal waters of these Pacific and Atlantic shelves are characterized by temperature, depth, salinity and other conditions which are well suited to the production of fish stocks.

The Province of Quebec and all the Atlantic Provinces have for many years participated in the exploitation of the resources of the east coast. An important section of the fisheries in the Atlantic area consists of high-value products such as oysters, clams, scallops, salmon and lobsters, of which the last is of overwhelming significance. It would appear that these

resources are reasonably well exploited with the present volume of production. The continued extension of proper conservation methods may bring about some enlargement of this section of the fisheries, but it will be limited. The continued growth of the North American economy may result in longer run higher prices for shell-fish as the demand for luxury foods increases. It is possible also that, with a further development of tourism, the financial return for Atlantic salmon as a game fish may gain new significance. The resources of ground-fish — so called because they live on the ocean bottom — are sufficient to warrant the expectation of an increasing volume of production. It does not appear that this expansion will take place equally among the different species of ground-fish. There may be some decline, for example, in haddock production, but this will be offset by an increase in the volume of cod. It might perhaps be noted that the recent trend of water temperatures has favoured a northerly movement of ground-fish, and if this trend continues, there will be a gradual relative concentration of primary fishing activity in Newfoundland and in northern parts of Nova Scotia. There is some opinion among oceanographers that this trend toward warmer waters in the North will be reversed after 1960. Considerable research is being carried out in regard to resources of the pelagic fish — so called because they “school” and feed on the surface. The products of the largest of these resources — herring and mackerel — lack a mass market, and the prospects for a substantial change in this situation are uncertain.

The operational trend in the fisheries of the Atlantic Region, particularly since the end of World War II, has been toward concentration in fewer fishing ports. Financially and structurally the industry has become more rationalized, and with the growth of modern fishing vessels and processing plants, the increase in capital investment per fisherman employed has been significant. Statistics on the growth of productivity accompanying this programme of rationalization are not available, but the evidence suggests that the sections of the industry which have made this adjustment have created a firm foundation for continued growth and prosperity. The process of adjustment has not been easy, and there are substantial groups of fishermen involved in what might be termed “stagnation spots”. There are, for example, peculiar difficulties involved in the inshore salt-cod fisheries of Newfoundland, where adjustments to changes in international markets have been combined with structural changes in the industry associated with the entry of the province into Confederation, as well as with market and technological developments. Recent trends indicate the value of fostering the development of markets in the expanding foreign economies. The return on fresh and frozen fillets which reach these markets is generally higher than for salt fish, which characteristically have been sold in countries that have had a slower rate of economic growth.

Any forecast of fisheries development in the Atlantic Region cannot disregard the problem of marketing an increased volume in the United

States. The comparative advantage of the Atlantic Provinces relative to the United States or other competing nations in the Atlantic Ocean is considerable, although the natural advantage of proximity to the resources is offset to some extent by the lower level of living in some of the competing countries. The resources of the fisheries themselves would undoubtedly sustain a bigger growth than can be forecast. The upper limit will be set in the foreseeable future by the market potential of the United States. Canadian consumption will undoubtedly increase, but the total volume of production is such that any considerable expansion must be based on the United States market. To reach its maximum efficiency the industry in the Atlantic Provinces will have to increase its capital investment programme to offset the fact that some 70% of the ground-fish catch is still taken with outmoded equipment. It is problematical whether capital will be available within the industry to provide for this and for the continued development of certain branches of fish-processing. The welfare of the industry and of the region, however, is clearly linked with such investment. This continued investment programme and the limited expansion of the market have a considerable bearing on man-power requirements in both the catching and the processing operations of the industry. Although it has been anticipated that there will be a continuation of part-time fishing in the region, it has been suggested that, with the growth of productivity, with commensurate benefit to those remaining in the industry, the number of fishermen engaged in the industry proper will probably decline to about one-half of those now classified as full-time fishermen, or to about one-third of the present total labour force of all degrees of dependence on fishing activities.

The west coast or British Columbia fisheries are somewhat different in nature, and the industry itself has different characteristics. The salmon fisheries in British Columbia are of primary importance. This is a high-value resource; it lends itself to the practice of conservation and to low-cost methods of securing the fish. The operation amounts almost to cropping, the fish having a uniformity of age and size which facilitates the application of mechanization in handling and processing. The industry, which is generally progressive, has been encouraged in its approach to mechanization by the high price of labour, which is natural in a prosperous province. The response of the salmon fisheries to conservation practices, which have been worked out on an international basis, warrants the assumption of an increased volume of production in the future. This applies also to the halibut and other fisheries. The question of the salmon fisheries is closely linked with power development in British Columbia. Proposals to divert large volumes of water from the Columbia River down the Fraser River — part of a vast hydro-electric development plan — pose serious problems for the preservation of the salmon run in the Fraser River. Research may well establish methods of preventing damage to the fisheries while providing for the development of this vital source of future energy. The continuance of technological improvements, both in the catching and in the processing

of fish in this area, will tend, as in the instance of the Atlantic Provinces, to reduce man-power requirements. Because of the more advanced stage of development in British Columbia, the displacement of man-power will be considerably less. It is possible, however, that automatic equipment will prove capable of substantially reducing the man-power requirements in fish-processing.

The inland fisheries of Canada are extensive, corresponding to the considerable lake areas available. It is expected that there will be some increase in the production of whitefish, pike, perch and lake trout in the large fresh-water lakes of Ontario, the Prairie Provinces and the Northwest Territories. The most significant increase in terms of volume will be in the coarser species. There is reason to believe that the supply of commercial fish from these lakes could be substantially improved by appropriate conservation and management techniques. The development of sports fishing as an adjunct of the tourist industry is closely linked with these inland fisheries. Recent trends suggest that this development will continue and that all regions will benefit from the growing opportunity of providing the luxury services associated with the trade.

#### *Mining and Mineral-Processing*

As already noted, the mining and mineral-processing industry has been a vital element in Canada's recent economic growth. The consensus is that it will continue in that role as an industry, though not in all its parts, in the foreseeable future. This is based in part on the belief that market outlets generally will be available and in part that Canadian known resources are such that the industry can be expected to compete successfully for at least its full share in that expanding market. Much of the expansion contemplated will arise out of increased demands from the United States, although Canada itself, Europe and some of the relatively under-developed countries are expected to contribute considerably to the growing markets. Some of these will inevitably be competitive sources of some minerals while providing markets for others. Russia, something of an enigma in regard to world markets, appears likely to be a net importer of some minerals but could become a strong competitor in others, such as asbestos.

It will be recognized that there are peculiar difficulties in assessing the future of this industry. To a considerable extent its resources consist of hidden treasure, and at this time an assessment of these must be based on reasonable presumptions rather than on exact proof. Much of Canada has not been mapped geologically and in some areas, such as large parts of the Maritime Provinces, the age of the maps restricts their usefulness in determining mineral potential. Again, consistent technological advances place a changing value on different minerals as industry requires and develops new alloys, substitutes new materials for traditional uses or develops new techniques of using neglected or marginal resources. These factors can be

taken into account to some extent in assessing the future of the industry as a whole. It is more difficult to assess their regional implications, for, as noted previously in respect of the New Brunswick base-metal discoveries, the impact of any new discovery or technological development may have a local or regional significance far in excess of the event as it affects the nation as a whole.

It is, then, difficult, if not impossible, to assess much of the potential mineral wealth of the regions, and the most that can be done is to consider projected demands and relate these on a regional basis to recent indications of potential growth. Of the metallic minerals, iron ore, uranium, copper, nickel and aluminum are expected to be in high demand. Lead, zinc and magnesium will also have an expanding market, and it is thought that titanium metal, manganese, thorium, lithium and columbium will be produced in substantially greater quantities in the future. Gold production is expected to decline unless market conditions change. Asbestos, the most important non-metallic mineral produced in Canada, appears to be assured of an expanding market, although this market may prove more competitive than in recent years. The markets for potash, sulphur and gypsum are also considered to warrant an assumption of greatly increased production. Of the mineral fuels, oil and natural gas have markets that are also sufficient to warrant a continuance of the recent rapid rate of growth of production. The market for coal, however, is more problematical. It is expected to grow for metallurgical purposes and for thermal power and industrial processing and space-heating. The recent decline in its use for railway purposes and for domestic and commercial space-heating is expected to continue. The market situation for the Canadian coal industry differs between regions and within them, the market in the West being much more competitive than in the East, although competition is high in both areas.

In mineral-processing it is reasonable to expect an increase based on the growth of Canada's domestic demand for many of these materials, particularly in regard to industrial and structural materials, and the regional pattern of such developments will reflect largely the growth of local consumption. Where exports are concerned the subject is more complex and difficult to assess. Canada's resources of strategically located low-cost hydro-power are not unlimited but can be expected to provide the basis for further expansion of the production of high-energy metals and mineral products including aluminum, and under certain conditions it can be expected that there will be an increase in the processing of nickel, lead and zinc and perhaps of uranium. It is reasonable to assume the continued growth of industrial activity — including further chemical and chemical-metallurgical manufacturing activities — based on Canada's wealth of oil and natural gas.

As the first step in assessing regional participation in this expansion programme, some brief reference might be made to the availability of low-cost energy. This is not of equal significance to all sections of the

industry, but Quebec, British Columbia and the Prairie Region appear to have a greatly preferred position for the increased processing of high-energy commodities. As shown in Table 46, where the figures are considered to represent a very conservative estimate, Quebec and British Columbia have relatively much greater reserves of unused hydro-electric capacity. While the Prairie Region has some hydro reserves, its main energy asset lies in large-scale thermo-power. In the circumstances of the region, where strip coal or, alternatively, surplus natural gas is available, costs of such power are comparable to those of large-scale hydro plants.

Table 46

**AVAILABLE AND DEVELOPED WATER-POWER IN CANADA  
BY PROVINCES AND REGIONS, 1955**  
(*thousands of kilowatts*)

Province or territory	Available 24-hour power at 80% efficiency		Installed turbine capacity	Column (4) as a percentage of column (3)
	At ordinary minimum flow	At ordinary six months' flow		
(1)	(2)	(3)	(4)	(5)
Newfoundland.....	715	2,054	245	12
Prince Edward Island.....	—	2	1	50
Nova Scotia.....	19	116	132	114
New Brunswick.....	92	249	122	49
Quebec.....	8,128	15,252	5,950	39
Ontario.....	4,034	5,417	4,004	74
Manitoba.....	2,486	4,149	594	14
Saskatchewan.....	410	835	82	10
Alberta.....	379	938	212	23
British Columbia.....	5,239	8,204	1,694	21
Yukon and Northwest Territories.....	285	607	25	5
Canada.....	21,787	37,823	13,061	34

SOURCE: The Commission's report, *Canadian Energy Prospects*.

In general, however, it appears that all regions will participate in the over-all expansion of the industry. Such a forecast amounts in fact to a projection of the feature of its recent growth, namely, its widespread impact across the country. The growth of the industry will probably be greatest in Quebec, reflecting in part an exceptionally large increase in the production of iron ore. In addition to an expansion of the traditional products of the industry in the province — aluminum, asbestos, copper, zinc and lead — which can be predicted on the basis of known reserves — reserves reinforced by recent developments in Chibougamau and the Gaspé peninsula — there are strong indications that vast stretches of the Canadian Shield in the northern sections of the province will yield an even greater diversity as well as increased supplies of minerals. Nor can the possibilities of titanium

metal production be ignored. This potential of the province, which has been unfolding in more recent years, suggests that Quebec may well assume a pre-eminent position among the regions in mining and mineral-processing. This Quebec challenge, however, will not be easy to assert, for the dynamic of the industry in Ontario has been strong and will be greatly increased as the large uranium ore deposits of the Blind River and Bancroft areas come into production. It is now apparent that the iron-ore resources of Ontario are much more extensive than was previously believed. Several deposits are now under development, and production from the Steep Rock area can be expected to expand greatly in scale. If gold is excluded, the prospects are for expansion of the whole of Ontario's metal-producing industry. Expansion of nickel and copper production will probably be a vital element in the general growth of the industry, while the evidence suggests that any decrease of gold production will be more than compensated by new base-metal production arising out of developments of copper and zinc deposits in the Manitouwadge and other new camps.

The very great impact of new mining and mineral-processing activity in the Prairie Region was noted in the course of the review of the economic growth of the area. Discoveries of vast resources of oil and natural gas in the region, located principally in Alberta but progressively revealed in significant measures in Saskatchewan and more recently in southwestern Manitoba, were of primary importance in this developing role of the industry. Only a very small portion of the potential oil-bearing land of the region has been thoroughly explored, and those familiar with the area are confident that the resources are sufficient to warrant the belief that these mineral fuels will sustain a greatly expanded volume of production. The ripple effect of this development, these new resources having led to chemical and metallurgical industries, may serve to transform much of the economy of the region, for the effects of oil and gas pipeline construction have not yet been fully realized. Coal production in the region as a whole is expected to decline, and the process of adjustment will be difficult for important sections of the industry. The reserves of metallurgical coking coals in Alberta and the contiguous areas of British Columbia will become of greater importance owing to a greatly increased demand for such coals on the North American continent as a whole, and over a longer period a large increase in the use of coal for thermo-power production is highly probable. How far this new demand will be met from the established mines of the area is problematical. In many instances it will probably entail the opening of new deposits based on open-cut mining practices.

The Saskatchewan section of the coal industry, where operations are of this nature, has expanded in the face of strong competition from competing fuels, and there is no reason to contemplate any reversal in this trend. Over a much longer period than is being considered by this Commission, the wealth of the region in coal resources will become of great significance.

Its abundant wealth in mineral fuels tends to distract attention from its other important mineral wealth, which relates more particularly in this instance to Saskatchewan and Manitoba, both of which provinces include large areas of the Canadian Shield. The Shield has already yielded rich deposits of uranium and has given indications of valuable copper deposits in northern Saskatchewan. The recent discovery of rich nickel deposits in the Shield area of Manitoba has led to the extraction of these ores for processing in Alberta and more recently, with the development of further large deposits, to firm prospects of large-scale power and plant developments within the Province of Manitoba. There is considerable confidence that elsewhere in Manitoba the Shield will yield additional sources of copper and zinc to complement the production of these metals in the Flin Flon area, which straddles the Manitoba-Saskatchewan border. It is now clearly established that the more central sections of Saskatchewan outside of the Shield area contain large deposits of potash. These deposits are expected to reach the productive stage in the near future and to provide a significant addition to the province's mineral production. Some indication of the importance which can be attached to the burgeoning of the mining and mineral-processing industry in the region may be gathered from the opinion expressed by the Premier of Saskatchewan to the effect that the value of production of the industry within a period of 10 years will probably exceed the value of the province's wheat production.

Present indications are that recent discoveries of oil and gas in northern parts of British Columbia, adjacent to the Peace River fields of Alberta, will prove to be harbingers of further revelations of valuable resources of these mineral fuels. This northern section of British Columbia represents an extension of the oil- and gas-bearing sediments which stretch across large sections of the Prairie Provinces and which thicken toward the Rocky Mountains. These fuel resources will prove to be highly important although they may be overshadowed over the longer period by the hydro-power developments; for British Columbia possesses exceptional potential in this direction. This is related to the undeveloped waters of the Columbia and Fraser Rivers and to the North, the Taku and Yukon Rivers. It is true that special difficulties attend the development of these resources. Normal financing is problematical in the circumstances, for maximum development involves complex problems associated with international control of the use of these waters, the merits or demerits of direct power exports and the measurement of the relative value of these waters as a fisheries or power resource. On what would appear to be a reasonable presumption that these problems will be resolved, there is little doubt that the latent energies of these rivers will form the basis of further mineral-processing in British Columbia, following the precedent of aluminum production at Kitimat. The province is also expected to retain a strong position in the production of base metals. Iron-ore production, which has been directed largely to export markets, may be expected to meet with a growing local demand, and the favourable

geology of large relatively unexplored areas of the province makes it reasonable to assume that recent developments of copper and asbestos are harbingers of increased diversity of mineral production as well as of a greater volume of output.

The extent to which the Atlantic Provinces will participate in the expansion of the industry is somewhat more problematical. It is necessary to be more temperate in this instance because it is difficult to foresee any substantial expansion of coal production, a major section of the regional industry. The situation of the coal industry in New Brunswick appears to be reasonably well established. The industry has expanded in recent years, and it appears likely that production will be sustained at the present level. On the basis of present knowledge, the reserves will not support any increase, and even at present levels the question of reserves will become a matter of concern within the foreseeable future. In Nova Scotia, the major source of coal production in the region, the situation is less clear. The special study of the prospects of the mines operated by the Dominion Steel and Coal Corporation, which company produces some 90% of the total of Nova Scotia coal production, was undertaken for the Commission by Urwick Currie Limited. In substance the report suggests that market conditions and production factors combine to limit the foreseeable output approximately to its present levels. Under the assumptions of this study, it appears that the industry will employ several thousand fewer workers within a few years. The terms of reference of the study excluded consideration of the operations of the smaller mines. It must be assumed that similar difficulties will impinge on these mines. These operations have a social importance to the areas in which they are located quite incommensurate with the proportion of total tonnage they represent.

As an offset to this, however, the recent discoveries of large deposits of base metals and the prospective manganese production in New Brunswick and recent mineral developments in Newfoundland make the future prospects of the industry in the region as a whole very different from what they would appear to have been a few years ago. Iron-ore production from Wabana and from the Labrador section of the Ungava field is expected to provide an important dynamic to the area. Further processing in the region in the form of a reduction of these ores before shipment and an expansion of their use for increased primary iron and steel production are questionable under existing transportation and technological conditions. The indications are that the current production of fluorspar, lead, zinc, copper and gypsum in Newfoundland will be supplemented by the development of new resources of these and other minerals. At present, deposits of asbestos and uranium are being investigated, and the Canadian Shield area of the Province of Newfoundland — the Labrador coast area — has not been explored to any great extent. Much of the province has not yet been mapped.

Production of gypsum in Nova Scotia can be expected to expand considerably in the foreseeable future. Much of this will be for export to the United States. Barytes production again will be in response to an expanding market. As a result of the discoveries in New Brunswick, active investigations are being conducted into the potentials of Nova Scotia with regard to these and other minerals. The investigations include exploration for oil. The full significance of the New Brunswick developments is difficult to assess at this juncture. The base-metal deposits are now known to exceed greatly the earlier tonnages discussed with the Commission, and the dimensions of the field are such as to make it of national as well as of local significance. Technological questions relating to the processing of these ores and to the extensive low-grade deposits of manganese in the province appear to have progressed to the extent that there is assurance of extensive mining and milling operations based on these resources. It is thus assured that New Brunswick will assume a new role in mineral production in the region. The most important question for the region as a whole relates to the possibility of local refining of one or more of these base metals; for, apart from the additional value which could thus be added to those minerals within New Brunswick and the employment that would be entailed, there are possibilities of a chain reaction in chemical and fertilizer production in the region arising out of the by-products of the refinery and the other regional resources — salt, limestone and coal to mention a few. Again, developments in New Brunswick would probably lead to the exploitation of more marginal deposits in Nova Scotia, an event which, on the basis of present information, is considered unlikely in the absence of local regional facilities.

Newfoundland has a unique source of low-cost energy in the Hamilton River. Within the foreseeable future there will be few if any sites comparable to those to which this energy could be transported for new production of aluminum or some alternative high-energy mineral commodity. An alternative suggestion is to transport this potential power over long distances to supplement supplies of medium-price power. The potential hydro-power resources of New Brunswick do not fall into the same category as the Hamilton River, for the possible developments on the St. John River cannot be expected to offer power at comparable costs. This power, however, is of great significance to the province, but, as in the case of British Columbia, the maximum realization of this potential involves a number of special problems including the international control of the upstream benefits of international waters. At present, special investigations are being conducted on a joint Canada-United States basis into the potential of tidal power in the Passamaquoddy Basin.

### ***General Trends and Population***

The Commission, in its *Preliminary Report*, predicted that under stated circumstances total activity, as measured by Gross National Product,

would triple in real terms in the next 25 years and that disposable personal income would rise by some two-thirds in the same period. Secondary manufacturing could be expected to employ about the same percentage of the labour force throughout the period, whereas the Commission felt that the tertiary or service industries would expand at a faster rate and account for some 55% of total employment by 1980. The resource industries, covering primary operations and the processing of these primary products, would greatly expand output, but increased productivity would enable this to develop with the employment of a lower proportion of Canada's total labour force. Where expansion is expected to occur to a greater degree in these industries than in secondary manufacturing or the tertiary industries, growth of personal income is likely to be as great and may be greater than elsewhere in Canada, as a large proportion of these products will be sold in the United States and financial returns from these operations will bring the dynamic forces of growth of that country to bear directly on these areas. Such emphasis on growth, however, cannot be expected to provide population growth comparable to that which may occur in areas where secondary manufacturing is a more important factor in regional growth, except at the expense of income. This effectively recounts the story of regional growth that has emerged in this study.

Some indications of the likely participation of the regions in Canada's future growth have appeared in this study, in the review of their relative attractiveness to capital and labour in recent years, and some observations have been made on the prospects of the expansion of industrial activity based on the regional resource industries. If these prospects of expanded output do not appear equally lively and if there are differences between regions in the emphasis placed on resources, it can be assumed that increased productivity and output in these industries in the various regions will generate greatly increased industrial requirements for goods and services, while higher per capita personal incomes will provide a further basis of growth for both secondary and tertiary activities. It was noted in the review of the growth of the regions that there was much less disparity between regions in the proportion of the labour force engaged in the tertiary industries of the regional economies than there was in the case of secondary manufacturing. Moreover, the disparity appears to undergo modification in the course of economic growth. It is reasonable to assume that there will be little if any change in this trend and that all the regions will experience a large and not dissimilar growth of employment in tertiary industries. This category of economic activity includes the tourist industry, which, in the conditions of increased leisure and higher incomes, can be expected to prove of increasing value to all regions.

It is clear from the Commission's study on secondary manufacturing in Canada that this form of activity has been based essentially on Canadian markets, on the requirements of the resource industries for plant and

equipment and service, and on domestic demands for durable and consumer goods. Only a small proportion, some 6%, of the output of the industry reaches export markets. The growth of activity and incomes in the regions will obviously provide further opportunities for the local growth of secondary manufacturing. Further development of the resource industries will create an additional demand for materials which form an essential part of the production processes of the industries. Just as there has been a development of pipe manufacture in the Prairie Region in association with the growth of the natural gas industry, so an increase of pulp and paper output in the Atlantic Provinces, for example, can be expected to support the local production of chlorine and caustic soda, an item that has been of increasing importance in recent years in production processes. A growing demand for consumer goods will undoubtedly, in a number of instances, convert marginal markets sufficiently to provide an economic foundation for production based on regional markets. In general, however, no change can be expected in the historic trend shown by the concentration of secondary manufacturing in the more populous areas of Canada. Much of the industry bases itself on national markets in order to secure the efficiencies and cost structure associated with volume production. Where there are no special features of exceptional regional demand, location in Ontario or Quebec has been required for industries turning out products of this kind. The normal economic forces influencing this pattern of things appear to have been modified to some extent in Canada — exaggerated in some instances and reduced in others — notably by special adjustments in transportation facilities and freight-rate policies. Some further comments on this subject appear later in this chapter.

Something of this dissertation on the likely emphasis in regional development must appear in any forecast of regional growth of population. The historic trend of population growth is, of course, of considerable guidance in such forecasting, and, as noted by Professor Hood, who prepared the estimates, the element of "hunch" is integral to the process. Some of the problems and qualifications associated with the estimate of the regional distribution of Canada's population are dealt with in the report entitled *Output, Labour and Capital in the Canadian Economy*, prepared for the Commission by W. C. Hood and Anthony Scott. On the basis of optimum income levels, there appears to be little likelihood of any great modification of the historical trends. The most significant modification appearing in the estimates which follow (Table 47) relates to the Atlantic Provinces and the Prairie Provinces. Inherent in the figures for the Prairie Region is a presumption that the recent population growth trends will largely continue. Future economic activity, it is believed, will support a considerable expansion of the regional labour force consistent with rising incomes. On the other hand, the figures for the Atlantic Provinces emphasize a growth of income. They reflect a conviction that the labour force cannot be expected to expand as rapidly in this region as in some others if incomes are to show a comparable

Table 47

## REGIONAL DISTRIBUTION OF POPULATION AND OF THE LABOUR FORCE, 1955-80 (a)

<i>Regional distribution of population (thousands)</i>									
	Canada	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia			
	%	%	%	%	%	%			%
1955	15,573	100	11.3	4,520	29.0	33.3	2,804	18.0	8.4
1965	19,520	100	10.2	5,780	29.6	34.5	3,290	16.9	8.8
1970	21,640	100	9.8	6,430	29.7	35.1	3,550	16.4	9.0
1975	23,990	100	9.3	7,150	29.8	35.6	3,830	16.0	9.3
1980	26,650	100	8.8	8,010	30.1	36.1	4,140	15.5	9.5

<i>Regional distribution of the labour force (thousands)</i>									
	Canada	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia			
	%	%	%	%	%	%			%
1955	5,555	100	9.3	1,586	28.6	36.5	974	17.5	8.1
1965	6,980	100	8.3	2,030	29.1	37.8	1,140	16.3	8.5
1970	7,910	100	8.0	2,300	29.1	38.4	1,250	15.8	8.7
1975	8,900	100	7.5	2,580	29.0	39.0	1,380	15.5	9.0
1980	9,930	100	7.1	2,900	29.2	39.5	1,490	15.0	9.2

<i>The labour force as a percentage of total population</i>					
	Canada	Atlantic Provinces	Quebec	Ontario	Prairie Provinces
1955	35.7	29.4	35.1	39.1	34.7
1965	35.8	29.0	35.1	39.2	34.7
1970	36.6	29.7	35.8	40.0	35.2
1975	37.1	29.9	36.1	40.6	36.0
1980	37.3	30.1	36.2	40.7	36.0

(a) Assuming net migration of 75,000 per annum.

SOURCE: The Commission's study, *Output, Labour and Capital in the Canadian Economy*.

increase and especially if the disparity in income levels is to be modified in the future. Considerable readjustments in the labour force appear to be required which in the first instance would limit its expansion as happened in the Prairie Provinces during an important phase of their development. It will be seen that British Columbia is expected to experience the most rapid rate of population growth, with Ontario and Quebec ranking next in that order. Ontario appears likely to retain its present distinction of having a disproportionate share of Canada's labour force relative to the provincial proportion of the country's population.

Many interesting observations on the growth of the various regional markets might be based on further calculations from these population figures. The purpose of this review of the prospects of regional growth, however, was to seek some assurance that all the regions would share in reasonable proportions in the bright prospects of future development which the *Preliminary Report* of the Commission has conceded to Canada as a whole. As already noted, an attempt to deal in absolute terms with the prospects of growth in each region would be an impossible task under the circumstances of this study. The upshot of the facts which have emerged so far warrants the assumption that there will be a wide regional dispersal of new development and rising incomes. This is not to suggest that this participation will be an automatic process without reference to regional initiative and drive in overcoming the very real problems of economic growth. What is implied is that the natural resources, the industrial momentum of recent years and the other yardsticks applicable for the assessment of the prospects of regional growth strongly suggest that British Columbia, Ontario and Quebec will fully participate in the expansion which is expected under the assumptions of the Commission's general report. Mining and related hydro-power development promise to gain even greater importance in the British Columbia and Quebec of tomorrow. Ontario will continue to expand over a wide area of activity, and the province will likely strengthen its position as the possessor of the most diversified of the Canadian regional economies. The progressive opening of the northern hinterlands of these provinces will provide, for the future, an economic frontier as important as and hardly less exciting than those of the past. The drive of new discovery and development in these areas can be expected to siphon off the local pockets of economic stagnation which normally border more prosperous areas.

This northern frontier is one among several factors suggesting that the Prairie Provinces will also share in a lively manner in the bright prospects of Canada's future growth. It is true that for the immediate future the welfare of the wheat industry, especially in Saskatchewan, must be considered of primary importance to the Prairie Region. On the other hand, the Prairie Provinces have yielded strong evidence of growth based on a diversity of resource development, and this promises to modify the uneasy relationship

between income and grain production which has been such an important factor in the history of the region. Sooner than might be expected, it may well appear inappropriate to employ the term "Prairie Region" if the name chosen is to be related to essential or unique features of the regional economy. Transportation questions would appear to have special significance in determining the strength and direction of economic growth in the Prairie Region in the more immediate future. Some further reference to this subject will be made later.

It is somewhat less easy, however, to identify the Atlantic Provinces with Canada's bright prospects of future growth. These provinces have shown the least conformity to the general pattern. Personal income per capita, however measured, is substantially lower in this area of Canada, and although the disparity has not increased on a relative basis, a more detailed analysis of the components of personal income shows that it has tended to increase when reference is confined to earned income. Neither the long- nor the short-term record of economic growth in the Atlantic Region suggests a momentum or consist comparable with that of other regions. The relatively low levels of capital investment in the region and the nature of that investment, combined with resource considerations, make it more difficult to assign to the region future prospects of economic growth comparable to those which may be considered reasonable for other parts of the country. For this reason some further attention will be given to the Atlantic Provinces in later pages of this report. It might be noted at this juncture that the prospects of the Atlantic Provinces and of the other regions have been dealt with on a relative basis. As this is a comparative study, the analysis should not be interpreted to mean that economic growth in the Atlantic Provinces is considered likely to be either slow or small in scale. The essential point is that the prospects do not appear as bright as in the other regions of Canada, where they are probably exceptional. In part it is a question of the yardsticks used to measure the prospects of the region. Whereas, for example, capital investment has been shown to be exceptionally low in the Atlantic Provinces in relation to that of Canada as a whole, if a different yardstick were employed and investment per capita in the Atlantic Region were measured in relation to investment in such countries as the United Kingdom, Germany and Italy, the Atlantic Provinces would appear in a much more favourable light. Nor does the preceding appraisal of future prospects of necessity rule out growth comparable to that expected elsewhere in Canada. It does, however, emphasize the need for a particular approach to the region and strongly suggests that in all probability adjustments of a fundamental nature will be necessary to assure any such growth. That continued attention will have to be given to regional questions to ensure maximum economic growth is axiomatic. Some indication of the questions which will be involved appears in the evidence, notably in the representations of the various provincial governments to the Commission.

### *Special Questions*

It might be observed that the general tenor of these representations was in marked contrast to views held at the time of the Rowell-Sirois Commission, the new optimism obviously reflecting the vast improvement that took place in economic conditions between the '30's and more recent years. Almost universally, although in varying degrees, prospects of optimum development were predicated on federal government recognition of and attention to a number of basic questions. Whether calling attention to questions of lagging growth or problems of expansion, the matter of these representations tended to revolve around two key subjects, financial problems and questions of transportation. Little if any comment was offered regarding commercial policy. The basic structure of the tariff appears to have been accepted largely as an integral part of the Canadian economy, while special transportation considerations or other forms of compensatory aids are often considered as the obverse side of the tariff shield.

### *Capital Requirements*

The record indicates that the provincial governments generally expected that they, either directly or through their municipal governments, would be required to continue to play a prominent role in fostering economic growth. This is generally considered to consist largely in improving the basic services available to industry in the regions, or in maintaining these under conditions of rapidly increased demand — a subject which in some instances is of particular importance because of a backlog of investment which has not yet been carried out. Some aspects of these particular problems are covered in the report entitled *Housing and Social Capital*, which has been prepared for the Commission. It is apparent from these requirements and from the views expressed that Dominion-provincial fiscal questions will not lose their importance in the foreseeable future. If readjustment of financial arrangements received major emphasis in the representations of the provinces, in many instances it was clear that many of the provinces look to continued co-operation with the federal government and, on occasion, for special aid in fostering sound economic development. In some instances this reflected a belief that the necessary projects were beyond the financial resources of the particular province, or the fact that they were closely interwoven with matters of federal jurisdiction, with exports of power, for example, or with control of the upstream benefits of international waters. It is obvious that decisions on these matters will depend on the merits of the particular projects involved and on some consideration of their relative importance to Canadian development and to the area concerned. Obviously the problem of allocating financial resources to meet the competing demands of economic development, social welfare and military security will be a continuing one in Canada. Although it has not been considered appropriate to go into these subjects in greater detail at this time, it has been considered desirable to develop

Table 48

# DEBT CHARGES AND RETIREMENT AS A PERCENTAGE OF PROVINCIAL AND MUNICIPAL NET REVENUES IN SELECTED YEARS, 1945-56

## Debt charges as a percentage of total net general revenues

Province	Provincial governments						Municipal governments						Combined provincial and municipal governments						
	1945	1951	1952	1953	1954	1955	1956	1945	1951	1952	1953	1954	1955	1945	1951	1952	1953	1954	1955
Newfoundland.....	—	—	—	3	1.8	1.5	3.2	—	6.9	12.1	7.7	6.7	6.1	—	—	4	8	2.2	1.9
Prince Edward Island.....	20.6	10.5	9.0	8.5	9.2	9.4	10.3	15.1	10.6	9.7	11.3	12.9	13.5	19.4	10.6	9.2	9.1	10.0	10.3
Nova Scotia.....	16.7	12.2	11.0	10.8	11.1	11.4	10.7	8.4	8.3	7.7	7.2	7.9	9.7	13.9	11.1	10.0	9.8	10.2	11.0
New Brunswick.....	26.0	13.7	11.9	11.4	11.5	11.8	11.1	10.0	5.8	5.3	4.8	4.5	4.1	21.3	12.0	10.3	9.8	9.6	9.5
Quebec.....	10.6	4.6	4.3	3.8	4.0	3.7	3.5	12.0	6.8	6.8	6.5	6.6	6.6	11.3	5.5	5.3	5.0	5.1	5.0
Ontario.....	15.7	7.4	6.9	6.0	7.5	8.0	7.3	4.8	3.9	4.2	4.9	4.3	4.5	10.6	5.8	5.7	5.5	6.1	6.3
Manitoba.....	11.0	2.3	2	—	—	—	—	6.0	2.8	3.0	3.0	3.0	2.9	8.4	2.6	1.5	1.1	9	1.0
Saskatchewan.....	9.4	4.0	2.9	2.7	2.2	1.2	1.5	6.6	2.1	1.8	2.4	2.4	2.4	8.1	3.3	3.9	2.6	2.3	1.7
Alberta.....	9.0	—	—	—	—	—	—	7.7	4.6	4.8	5.5	5.4	5.5	8.4	1.6	1.2	1.0	3	1
British Columbia.....	12.9	5.0	4.0	3.8	3.1	2.9	2.4	14.7	8.9	7.1	7.1	8.8	10.4	13.6	6.4	2.0	5.0	5.0	5.1
Average.....	—	—	—	—	—	—	—	—	—	—	—	—	—	11.1	5.4	4.9	4.6	4.8	4.8

## Debt retirement as a percentage of total net general revenues

Province	Provincial governments						Municipal governments						Combined provincial and municipal governments						
	1945	1951	1952	1953	1954	1955	1956	1945	1951	1952	1953	1954	1955	1945	1951	1952	1953	1954	1955
Newfoundland.....	—	.4	.3	1.3	2.2	2.4	3.5	—	1.6	1.4	1.2	1.1	1.0	—	.5	.4	1.3	2.1	2.3
Prince Edward Island.....	12.5	8.3	7.4	7.5	6.9	7.5	7.8	13.4	6.7	7.7	8.1	7.9	7.9	12.7	8.1	7.6	7.7	7.2	7.7
Nova Scotia.....	3.3	7.0	11.0	9.0	8.2	8.5	8.6	5.2	6.4	7.2	7.4	11.4	12.1	4.1	6.9	9.9	8.6	9.4	9.9
New Brunswick.....	4.2	11.3	10.1	11.1	9.5	9.4	9.0	5.8	5.6	4.7	4.9	5.1	5.4	5.1	10.1	8.9	9.6	8.4	8.4
Quebec.....	4.1	5.1	3.4	3.4	3.2	3.1	3.2	10.0	12.8	11.3	13.4	13.5	13.6	6.9	8.2	6.6	7.6	7.5	7.7
Ontario.....	3.3	10.5	7.5	8.1	3.6	3.7	3.5	12.3	9.6	9.5	9.3	8.9	9.0	7.7	10.1	8.5	8.7	6.3	6.6
Manitoba.....	4.0	13.1	21.5	12.2	8.8	9.1	8.2	5.8	4.8	4.5	4.6	4.9	5.0	4.9	9.1	13.9	8.8	7.0	7.1
Saskatchewan.....	5.6	7.4	7.7	8.3	7.4	7.0	6.2	2.0	1.6	1.6	2.6	2.6	2.6	4.0	5.3	5.5	6.2	5.5	5.2
Alberta.....	—	2.7	2.8	1.6	1.6	1.7	1.5	6.3	4.8	5.7	6.1	7.9	7.9	2.8	3.6	3.3	3.0	3.8	4.2
British Columbia.....	6.8	11.4	23.6	6.7	6.4	6.2	4.8	6.8	5.7	6.9	6.5	6.3	8.8	6.8	10.3	9.9	7.0	6.7	7.1
Average.....	—	—	—	—	—	—	—	—	—	—	—	—	—	6.3	8.4	8.9	7.3	6.4	6.7

SOURCE: *Comparative Statistics of Public Finance*, Dominion-Provincial Conference, 1955 and 1956.

some data on the relative financial positions of the provinces as background material for the deliberations of the Commission. This is an extremely difficult exercise. Some indication of the relative positions, however, may be gleaned from reviewing provincial and municipal debt charges as a percentage of total net revenues. These are stated in Table 48.

When the provincial and municipal figures are combined and the interest and retirement figures are amalgamated, it is clear that in 1955, on this basis of measurement, the positions of the provinces varied considerably. The Provinces of British Columbia, Ontario and Quebec are in approximately the same position. Debt charges are respectively 12.2%, 12.9% and 12.7% of total net general revenue. The Prairie Provinces have maintained a relatively low debt-charge position. Alberta's charges amount to 4.3% of total net general revenue, Saskatchewan's to 6.9% and Manitoba's to 8.1%. The Newfoundland position has been unique, arising out of the 1949 Confederation arrangements, but the other Atlantic provinces are in the least favourable position. Debt charges as a percentage of net general revenue are 20.9% in Nova Scotia, 17.9% in New Brunswick and 18% in Prince Edward Island.

Information is not available on the rate of social capital accumulation by regions. Recent reports on the school situation in New Brunswick and Nova Scotia, among other things, suggest that the debt position of the Atlantic Region is not the result of luxury spending. On the other hand, the evidence submitted by the Ontario Government to this Commission suggested that the Province of Ontario, by reason of its recent growth, has accumulated a large backlog of social capital expenditures, and there is reason to believe that somewhat similar conditions obtain in British Columbia and Quebec. To some extent, then, the foregoing figures could be misleading. It should be noted, however, that the low-income provinces have less leeway in respect of taxable capacity. The evidence suggests that similar levels of taxation in the low-income provinces provide less revenue per capita, the differentials in revenues being greater than any differentials in costs of services. There is no evidence to suggest that these provinces are not already taxing at a rate at least as high as the other regions to sustain their present financial position. It is not unreasonable, therefore, to conclude that the foregoing figures do have some significance in suggesting the relative financial ability of the regions to foster new resource developments insofar as government credit is involved. If this is true, it is clear that the situation is least satisfactory in respect of the Atlantic Region. The position in Quebec and British Columbia does not appear particularly attractive. The situation improves, however, when a distinction is made between interest charges and debt retirement. Some provinces obviously are paying off debt at a relatively faster rate, while the level of borrowing varies considerably among the provinces.

*Transportation*

As noted earlier, it is inherent in Canadian circumstances — the vast distances separating its developed areas, the difficulties of the intervening terrain and the historical problems of creating a unified economy — that transportation and communications questions have loomed large in the development of the country. The history of the steps taken to provide the necessary facilities is too well known to require repeating here. It is a story of the imaginative and stubborn conquest of inherent difficulties in which both government and private enterprise participated, oft-times as partners, with results which would astound the early voyageurs and which have effectively sustained the continued expansion of the nation.

Few will question that Canada's future development will call for the continued use of imagination and boldness in the provision of these facilities or that the St. Lawrence Seaway Project and the construction of gas and oil pipelines from the Prairie Provinces to central Canada and the west coast are more than recent harbingers of further major ventures. These will be required to extend the boundaries of development into the northern hinterlands of the provinces and to the federal territories of the Canadian North and, in some instances, may serve to transform established areas through the improvement of basic facilities. There is general agreement that the development of railway facilities is of primary significance in regard to the prospects of these northern areas, and specific recommendations were made to the Commission on a number of railway construction projects, notably in respect of the northern areas of the Prairie Provinces and the territories of the North, which were thought to be of immediate importance in this regard. There is general recognition also that the further extension of other facilities — highways, waterways and air services — will have profound effects on the development of all the regions. The probable impact of a continued growth of air services, as these will develop on the basis of jet propulsion, is as challenging to the imagination as forecasting the potential impact of the St. Lawrence Seaway.

Regional interests have been heavily involved in questions of transportation and communications since the inception of Confederation. The original British North America Act itself contains reference to specific transportation facilities and services which were conditions of agreement to Confederation, and it is interesting to note that, in the instance of all three of the provinces which have entered Confederation as a matter of choice since that time, transportation questions have been a pre-condition of agreement. It was noted previously that commercial yardsticks have been subservient to the more basic considerations of nation-building in important instances in the history of Canada's economic development. These considerations, rather than purely commercial factors, have in many instances determined transportation routes as well as influenced the structure of charges for services, and throughout Canada's history there has been a

persistent problem of reconciling the interests of the nation and the essential conditions of profitable transportation.

The subject is of lively interest to all the regions. As might be expected, interest in it is greatest in the outlying parts of the East, West and North. In the more remote areas of these regions, it is a matter of providing new facilities. Within the western and Atlantic regions, however, there is also a profound interest in other transportation problems. These are associated largely with the transitional stages of the transportation industry in Canada and the unequal regional impact of railway freight-rate adjustments which reflect this transition. In large part this interest has taken the form of protests against the horizontal freight-rate increases which the railways have put into effect in response to the changing circumstances of the industry. It is apparent also that, in part, it reflects a growing interest in adjustments in transportation arrangements, particularly in changes in the railway freight-rate structure, which will facilitate an increased diversification of economic activity in these regions.

The special report to the Commission on the future prospects of the transportation industry indicates that the industry will be required to make continuous adjustment to changing technological and economic circumstances in the future. There is no evidence to suggest that it will be any less important to the nation than it was in the past that these adjustments have no seriously unequal effects on the different regions or that, as far as possible, they conform to the requirements for maximum regional development. The primary importance of the subject of future regional development in fact seems to warrant some further comments on the subject.

### *Impact of Transition*

One important characteristic of transportation developments in Canada over the past 25 years has been the great increase in competition between different forms of transportation. The railways, after competing successfully with the canals of early Canadian history, established a virtual monopoly in the field. In today's circumstances, highway, airline, pipeline and, increasingly with the advent of the St. Lawrence Seaway, water transportation, offer significant alternative means of travel and shipment. It is a feature of this growing competitive situation that it has been highly concentrated in the Provinces of Quebec and Ontario, notably in the industrialized area running from Windsor to Quebec City. This development is bringing about a transitional change in railway freight rates, the impact of which has been felt most directly in the East by the Atlantic Provinces, and in the West by the Prairie Provinces and British Columbia. The circumstances are creating a problem of great complexity, one that is deep-rooted in the very structure of railway freight charges.

It is well known that railway rate policy developed in an historical background of the need to move low-value primary products over long

distances. In some instances this movement was in competition with water transportation on canals and was also in competition with alternative railway services in the United States. For this reason the railways offered low rates on these products. With the opening of the West this policy was strengthened by government financial arrangements with the railway companies, as expressed, for example, in the Crows Nest Pass Agreement, which, among other things, provided for low charges on the movement of grains over long distances.

It is in the nature of things that the railways, in pursuit of such a policy, would be forced to secure higher revenues from the higher value commodities in order to compensate for the low returns elsewhere. The development of manufacturing in central Canada and the local incidence of the movement of the resultant high-value products meant effectively that a considerable proportion of railway overhead revenues were collected from traffic moving in these areas. The revenue system of the railways increasingly became a form of subsidization of certain industries. In fact, freight classification and the rate structure in general may be seen as a complex system of bonuses and taxes, taxes being levied on some commodities through charges set considerably above average costs, and bonuses being given to other types of traffic which traditionally have been carried below full costs. Overhead costs were collected unequally between industries and between regions. To some extent, at least, this internal accounting system offset the benefits of the tariff, which acted largely in the interests of the central Canadian provinces, by providing what amounts to a bonus for the long hauls of the East and West. It is a feature of Canadian transportation that transportation rates and freight classifications, developed by the railways to meet competitive conditions and strengthened by the requirements of national policy, did much to mould the pattern of regional economic development. Essentially these rates accentuate the influence of economic geographic factors in promoting the growth of specialization in resource industries in the less populous and more distant regions and the concentration of manufacturing in the central regions. In this regard, there is some profit in a comparison with the experience of the United States, where the railways themselves are regional rather than national in structure. Their close interest in maximizing traffic in their respective areas is reflected in their rate structures as well as in their specialized promotional activities on behalf of local products.

One outstanding feature of the increase of competition in the industry is that in recent years the trucking industry has made serious inroads on the high-value traffic in central Canada, the conditions of short hauls and high density of movement being attractive to this form of transportation. They were particularly attractive because, as a result of the historical background of the rate structure, rates on this traffic were high in relation to railway costs. Thus, the railways were particularly vulnerable on high-value traffic for several reasons, including the background of their own freight structure.

In their efforts to hold this high-value traffic, the railways increasingly have had to adjust their rates to a cost-of-service basis. A natural outcome of this has been that they have been pressed to recover overhead costs previously allocated to this traffic from the movement of the lower value commodities moved over long distances. The resultant increases and the horizontal form in which they have been applied have been of great concern to the outlying regions. The railways expect the competitive process to continue, and it would appear that their only reasonable response is in the direction of increased efficiency and the progressive relating of charges to marginal costs. It is hardly necessary to point out that over a long period the western and eastern regions have developed economically on the basis of established patterns of freight charges and that changes in these patterns will inevitably create problems. It has been suggested that the situation will require further subsidization of the railways, a public subsidy in substitution for the internal accounting system of balancing costs and revenues practised by the railways. It is well known, for example, that the federal government has subsidized the railways in respect of the adjustments they were required to make under the Maritime Freight Rates Act. More recently, the federal government instituted the subsidy to the railways on western rates associated with the so-called bridge covering the low-traffic density area which intervenes between Ontario and the West.

While this is a major element of the problem, there are other important aspects to it. The rate structure contains many anomalies, and it is apparent that there is a growing dichotomy of interest in the structure of railway rates in the outlying regions. This arises out of the growing diversification of these areas. Although grains are still of great importance in the western economy, the progressive diversification of agriculture and the growing manufacturing potential of the West, associated in particular with the production of chemicals from the oil and gas resources of this region and the primary processing of its agricultural products, are increasingly evoking an interest in freight charges which will foster their development or at least prove neutral to the process of growth. It is suggested later that the Seaway will provide the basis for substantial savings in the cost for moving western grains. The distribution of these savings on a broad basis might augment railway revenues and offer an opportunity of equating these diverse interests. The adjustments to this unfolding problem will obviously require expert study and advice.

Without such attention it is equally difficult to assess the proportions of the transportation problem of the Atlantic Region. It is generally recognized that transportation and communication facilities in the region are inadequate despite the very considerable assistance which has been provided the region in this respect. At this time special studies are being made regarding improved arrangements for the two island provinces — Newfoundland and Prince Edward Island. More recently there has been

active interest in the question of possible benefits from the securing of highway linkage between the Atlantic Region and central Canada through the State of Maine. Recent developments in regard to airports, the integration of flight schedules with those of other regions and the promise of improved aircraft offer important opportunities for reducing the geographic isolation which directly and indirectly hinders industrial development in the Atlantic Provinces. It is probable that the incidence of recent horizontal increases in freight rates has been most heavily felt in the Atlantic Region. Their impact in the West has also been considerable. In the West, however, a substantial portion of the region's total transportation costs consists of export grain traffic under the Crows Nest Pass Agreement. These rates are fixed by a statute and have remained constant. The postwar rate increases, therefore, have been restricted to other traffic composing no more than some 60% of the traffic. It would appear that the total transportation costs of the region have increased somewhat less severely. The equalization of class rates in 1954 has had the effect of reducing western railway rates by 10%, while the one-and-one-third rule has protected other types of traffic.

It is possible to exaggerate the situation which has confronted the Atlantic Region. Freight-rate questions are closely interwoven with more general problems of adequate transportation and communication facilities and services. Again in a number of ways — for example, the exclusion of the Maritimes from the class-rate adjustments under the 1955 equalization scheme — the recent changes have not been unfavourable to the area relative to central Canada. However, on balance and with particular regard to special interests such as the steel industry, the region appears to have been in the least fortunate position in regard to rate changes. Moreover, it is increasingly difficult to foresee the possibility of correcting the situation and fostering the growth of traffic envisaged under the Maritime Freight Rate Act in the transportation circumstances which have developed. There is no doubt that the region has a basic interest in improved transportation facilities in general and that involved in this question there is also an historical interest in securing special freight rates to facilitate entry of products from the Atlantic Region into central market areas. In the light of the growth record of the area and the developing problems of competitive transportation, there is considerable doubt as to the adequacy of existing arrangements. The trend of the economy is toward the production of specialized products, the markets for which, in many instances, do not lie in central Canada. The commodities which can be produced in the region for the central Canadian market are few rather than many. More detailed studies might show that substantial assistance covering fewer but selected commodities would cost no more than the present more general arrangement under the Maritime Freight Rates Act and might prove a more effective aid to the region's economic development. In this regard it is interesting to contrast the Crows Nest Pass Agreement with the Maritime Freight

Rates Act. Whereas the latter provided for general rate reduction, the Crows Nest Pass Agreement was essentially related to a particular resource of the Prairie Region and designed to maximize its comparative advantage. It is not unreasonable to question whether a similar approach to steel or other special resources of the Atlantic Region might not prove a more effective aid to economic development. As noted earlier, however, the facts are not available for any serious examination of the matter. Nor are they for any careful appraisal of the possible effects of the St. Lawrence Seaway on the region, for there are certain indications, as will be apparent from the preliminary analysis which follows, that the effects of the Seaway will not be beneficial to the Atlantic Provinces.

### *The St. Lawrence Seaway*

No comprehensive study of the effects of the St. Lawrence Seaway on the Canadian economy has been made, and it is impossible to attempt any definitive analysis until such time as policies regarding tolls and the question of cabotage are settled. The prospects of development as the inland ports of the Great Lakes on both sides of the international boundary become, to all intents and purposes, Atlantic ports are a challenge to the imagination. It is generally accepted that great benefits will accrue to Canada despite the inevitable adjustments which will be required to adapt the traditional patterns of transportation to meet the changing circumstances. The implications of the Seaway will be widespread in Canada and will reach far beyond the Provinces of Ontario and Quebec. If, at first appearance, the central regions would seem to be the chief beneficiaries of the project — for here transportation gains are augmented by increased potential for hydro-electric power — there are good reasons to expect extensive gains for the Prairie Provinces and, to a somewhat lesser extent, for British Columbia. It is less readily apparent, however, that the Seaway will assist the Atlantic Region. The Provinces of Nova Scotia and New Brunswick both expressed concern regarding possible adverse effects of the Seaway when they made representations before this Commission.<sup>2</sup>

The chief gain to be expected by the Prairie Region, a relatively landlocked area, is a greatly improved transportation route to and from the eastern regions of Canada, to important areas of the United States and overseas. Transportation by ship via the Atlantic Ocean to the head of the Lakes and forwarding from there by rail or road haulage or shipment by similar means in the opposite direction will provide strong competition for established patterns of transportation. The net result should be lower transportation costs both for grain and other exports and for imported supplies. With certain lake-port improvements, specifically improvement

<sup>2</sup> These views and the author's reflect, at least in part, the findings of Professor Stanley Cumming of the Department of Commerce, Dalhousie University, who some years ago made a preliminary study of the possible effects of the Seaway on Nova Scotia. See the *Dalhousie Review*.

in general cargo terminals, and ready access to port facilities for large competitive transportation agencies, it appears likely that water-road traffic will develop rapidly when the Seaway is completed. It is interesting to speculate on the extent to which the creation of a national harbour at Fort William-Port Arthur and the construction of a westward inter-provincial highway suitable for heavy traffic might stimulate diversified economic activity in the Prairie Region. The Prairie Provinces, however, have a clear-cut interest in the financial welfare of the railways. These provinces rely on rail movement for grain exports, and it is expected that the railways will play a prominent role in the development of the northern hinterlands of the Prairies. There is some concern that the provision of such services might be impeded if the railways are deprived of revenues through more intensified competition in the West and, more particularly, through the diversion of traffic from the railways to the Seaway in the central regions. Similar considerations apply to the Province of British Columbia, where the chief gain appears to lie in an increased availability of water transportation to and from the Ontario and central United States markets.

As noted elsewhere in this report, the Maritime Region has been progressively isolated geographically over a long period of history. The replacement of sailing vessels by steamships and the fact that railway communication with the Canadian interior is shorter from the United States Atlantic ports than from the Maritime ports gradually brought the use of the St. Lawrence River and of the United States seaboard ports into greater favour. The Seaway may be seen as an extension of this historic process. Moreover, the preponderance of the foreseeable cargo tonnage on the Seaway will be the movement of iron-ore from the Ungava Field to the Great Lakes ports of the United States. This will represent a reversal of the traditional traffic pattern. Historically the incidence of cargo tonnage has been downriver, and shipping rates have reflected the search for cargo moving westward. In respect of bulk cargoes which can be transported in ore carriers, the tendency will be for cheaper rates to apply in the future on eastern or downriver movements.

On this basis it appears likely that, at least in regard to the three Maritime Provinces, the adverse effects of the Seaway will tend to outweigh the advantages. Whereas the Atlantic Region, especially the port areas, on the uneasy assumption that the Seaway will not be kept open in the winter months within the near future, may be expected to share to some extent in the general growth of activity arising out of the stimulus to Canadian development provided by the Seaway; and although there may be marginal benefits accruing from the Seaway to the forestry, agricultural and ship-building industries of the Atlantic economy, preliminary analysis suggests that the coal, steel and fishing industries will be adversely affected. These industries are important in the regional economy.

## THE ATLANTIC PROVINCES

THE BACKGROUND of this section of the study is the difficulty of assuming that the prospects of future growth in the Atlantic Region are comparable with what can be expected with reasonable confidence in the other regions. The evidence, it will be recalled, appeared to warrant the belief that specific and far-reaching measures would have to be undertaken if the outlook was to be changed to any effective degree, a position which receives additional emphasis when account is taken of the considerable difference in income per capita which has persisted over a long period of time. The purpose of this chapter is to determine whether a more detailed examination of the situation offers any sense of direction in an approach to the problems of the region or is suggestive of the nature of the measures which would be most conducive to improved economic prospects.

In the first instance an attempt is made to measure the importance of various factors affecting the level of income in the Atlantic Provinces. This is done by examining the difference between income in the Atlantic Provinces and in Ontario. The use of Ontario as the yardstick was decided upon after the advantages and disadvantages of such a choice had been balanced. Comparisons in the study up to this point have been directed largely to departures from the national average. There was little point in carrying through the statistical analysis of the differences in income by reference to average figures which included those of the Atlantic Region; nor could the Canadian average, less the figures for the Atlantic Region, be expected to convey very much. The remainder would be a hypothetical unit and offer little sense of reality. Ontario, on the other hand, offered a distinct contrast for study purposes, and the figures reflected an operating economy with which one could be somewhat familiar. Again, there are considerable technical advantages, relating in particular to the availability of statistical data, in the selection of Ontario as the yardstick. The disadvantage of the selection is, of course, that the choice may appear to arise from an implicit assumption that there should be no income difference between the two regions. Perhaps it is sufficient to point out that such reasoning has no part in this study and to point to the general Canadian habit of comparing

economic performances in Canada and the United States. This is based essentially on a recognition that comparisons are most meaningful for purposes of economic analysis when related to optimum conditions and performances. On balance then, the selection of Ontario appeared at once sensible and practicable. The point of time chosen is 1951, the latest for which the census statistics are available.

It is recognized that the analysis tends to superficiality in the sense that the mathematics are not particularly sophisticated, being partly the product of the inadequacies of statistical data, and also because attention is of necessity directed to the symptoms of the problems involved rather than to the underlying causes of income disparities. The approach is also inherently static in nature in that it deals with the situation at one point of time. The analysis, therefore, is pushed further on some of the questions which the preliminary analysis raises, and some additional attention is given to the historical background of the development of the region.

### *Disparity in Personal Income*

The first factor which emerges out of the comparative figures on personal income per capita in the Atlantic Provinces and in Ontario is that the disparity in *earned* income is by far the biggest factor in accounting for the disparity in *total* income per capita. It will be seen from Table 49 that the total disparity in personal income per capita in 1951 was \$615, of which \$545, or about 89%, arose out of lower earned income. Subsequent analysis is concentrated on this feature of the situation, the difference in earned income per capita. It might be noted in passing that there are important differences in the figures for the individual provinces of the Atlantic Region.

On the surface of things, four factors are important in determining the relative level of *earned* income between the two regions: the size of the labour force in relation to total population in each region; the relative intensity of the use of man-power as measured by differences of time worked annually; variations in occupations or differences in the industrial mixture between the regions; and the relative rates of earnings when members of the labour force are employed. In this preliminary approach to the Atlantic Provinces the differences between Ontario and the Atlantic Region in regard to these four factors have been studied and an attempt has been made to measure the relative importance of each individual factor in accounting for the difference in earned income between the two regions. The method adopted was to standardize the Atlantic Region to the Ontario level for each of these factors. Calculations were made, for example, on the increase in earned income which mathematically would accrue to the Atlantic Provinces if the labour force were similar in size in relation to total population in both regions. Similar calculations were made covering the other factors — time worked annually, rates of earnings and the occupational pattern. Important details of this analysis appear in Appendix D. The results of the calculations are summarized in Table 50.

Table 49

A COMPARISON OF PERSONAL INCOME PER CAPITA AND OF ITS COMPONENT PARTS  
IN ONTARIO AND THE ATLANTIC PROVINCES IN 1951

Income per capita	Ontario		Atlantic Provinces		New- foundland		Prince Edward Island		New Brunswick		Nova Scotia		Maritime Provinces	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Total personal income.....	1,323	100	708	53	571	43	612	46	729	55	782	59	747	56
Earned income.....	1,127	100	581	52	463	41	484	43	599	53	649	58	615	55
Interest, dividends, etc.....	129	100	52	40	36	28	54	42	52	40	58	45	56	43
Government transfer payments.....	67	100	75	112	72	108	74	110	78	116	75	112	76	113

SOURCE: Calculated from *National Accounts, Income and Expenditure, 1950-55*.

Table 50

**ESTIMATED IMPORTANCE OF VARIOUS FACTORS ACCOUNTING  
FOR THE DISPARITY IN PER CAPITA EARNED INCOME BETWEEN  
ONTARIO AND THE ATLANTIC REGION, 1951**

	\$	%
Total disparity.....	545 (a)	100
Proportion ascribed to differences in		
1. The relative size of the labour force.....	158	29
A. Due to different age distribution of the population...	103	19
B. Due to the lower participation of the working-age population in the Atlantic Provinces.....	55	10
2. The weeks worked per annum by paid workers.....	55	10
3. The occupational or industrial pattern.....	65	12
4. Rates of earnings.....	267	49

(a) This is the actual disparity in current dollars in 1951. The disparity noted in Appendix D is slightly different because of an adjustment made to give the analysis a somewhat broader application. See Tables D-II and D-III in this appendix for details.

On the basis of this analysis, \$158 of the total disparity in earned income per capita in 1951, which amounted to \$545, was related to the relative size of the labour force, or the smaller proportion of the total population in the labour force of the Atlantic Region. Of this \$158, some \$103 reflects differences in the age characteristics of the two regions, essentially the higher proportion of the population below working age in the Atlantic Provinces; and the remaining \$55 can be ascribed to the smaller proportion of the population of working-force age who participate in the labour force. A further \$55 of the total \$545 difference in earned income per capita springs from the lesser number of weeks worked by paid workers in the Atlantic Provinces in 1951. The difference in occupations, or the greater proportion of what are normally low-wage industries which obtains in the Atlantic Provinces, may be said to have given rise directly to a further \$68 of the total disparity, while \$267, or nearly half of the difference, can be attributed to lower rates of pay — the weekly rates of paid workers and the annual rates of the self-employed.

It will be readily appreciated that an analysis of this nature cannot be expected to do more than suggest proportions and elicit further questions. One very important item of emphasis became apparent in the course of the calculations, namely that there is a close interrelationship between each of the foregoing individual factors. In the analysis itself this is referred to as interaction. The significance of the point may develop more clearly as these factors are further dealt with. It might be noted at this time, by way of example, that part of the lower labour force participation rate in the Atlantic Provinces springs from differences in the industrial pattern of the two regions. In Ontario there is a greater opportunity for employment of women owing to the greater diversity of activity, including the proportionately greater

number of light industries in the Ontario industrial complex. The inescapable conclusion from this appears to be that a simultaneous approach to the problems, of which these factors are symbolic, is essential. An approach to any one single factor is likely to be defeated in the face of the counterpressures of the other factors.

### *Participation of the Labour Force*

On closer examination it is clear that there are two separate elements in the smaller size of the labour force in relation to total population in the Atlantic Provinces. In the first place there are more people below the age of 14 in relation to total population in the Atlantic Provinces than in Ontario. Thus 74% of the population of Ontario in 1951 was in the 14-to-65-year age-group, whereas only 67% of the population was in the labour force age-group in the Atlantic Provinces. Alternatively, some 33% of the population in the Atlantic Region were of dependent age while only 26% were of such age in Ontario. Thus earned income per worker would have to be considerably higher in the Atlantic Provinces to remain equal on a per capita basis with earned income in Ontario. Some 20% of the difference in earned income per capita can, in fact, be attributed to the greater number of those in the dependent age-groups in the Atlantic Provinces. The position has its roots in a number of factors. There has been a higher rate of natural increase in the Atlantic Region owing in part to the fact that a relatively greater proportion of the population of these provinces is rural. On the other hand, the higher rate of immigration in Ontario has tended to raise the average age of the population. At the same time, emigration worked in the opposite direction in the Atlantic Region and tended to reduce the average age in that area. Whereas population in the Atlantic Region has tended to grow faster at the upper and lower age limits, in Ontario it has grown faster in the middle, in the labour force age-groupings.

In the second place, the labour force is relatively smaller in the Atlantic Provinces because fewer people of working age actually work or seek work. Thus in June 1951 the participation rate, or the percentage of persons in the civilian non-institutional population of 14 years of age and over who had jobs or were actively looking for work in the Atlantic Region, was 49.2% as compared with 56.1% in Ontario. In the review of the economic growth of the regions it was noted that a relatively low labour-force participation rate has been a pernicious problem in the Atlantic Region as employment opportunities have lagged over a long period. In recent years this problem appears to have been of increasing importance as the rate has declined in the Atlantic Provinces. Over the same period there was a decline in the labour force in the Atlantic Provinces. In June 1949 the labour force in the Atlantic Region was estimated at 543,000 persons, compared with 529,000 in June 1955. The later figure, however, represents a recovery from a low point of 515,000 in June 1952. On the other hand, the labour force in Ontario was

showing strong growth and rose from 1,826,000 in June 1949 to 2,048,000 in June 1955. This was a 12% increase.

Table 51

### THE LABOUR FORCE PARTICIPATION RATE IN ONTARIO AND THE ATLANTIC REGION, 1949-55

Date	Atlantic Provinces	Ontario
June 1949	51.1	56.4
June 1950	50.8	55.8
June 1951	49.2	56.1
June 1952	48.3	55.7
June 1953	48.9	56.4
June 1954	47.3	56.5
June 1955	47.4	56.4

SOURCE: *The Labour Force*, June 1949-55.

An important feature of the difference in the labour force participation rates of the two regions emerges when the figures are broken down to differentiate male and female participation. The figures show clearly that although male participation is considerably lower in the Atlantic Region, the greater discrepancy relates to the employment of women. According to the 1951 Census these rates were as shown in Table 52.

Table 52

### THE LABOUR FORCE PARTICIPATION RATE IN THE ATLANTIC REGION AND ONTARIO BY SEX AND AGE GROUP, 1951

	Atlantic Provinces	Ontario
<b>Male</b>		
Age-group	80.5	85.7
14-19	46.3	50.5
20-24	92.9	94.8
25-44	96.2	98.5
45-64	90.4	94.0
65 and over	37.5	44.8
<b>Female</b>		
Age-group	19.0	26.5
14-19	26.3	37.2
20-24	39.7	51.7
25-44	16.9	26.9
45-64	14.0	21.1
65 and over	3.2	5.9

The lower participation rate of those of working age in the Atlantic Provinces is of course related to a number of questions. The rate normally reflects the pace of economic activity. It also reflects the type of occupational opportunities available. Both the higher pace of activity and the greater

diversity of occupations available in Ontario have been important factors in determining the differences between the two participation rates. The latter factor is probably of greater importance in female participation. It is probable, for example, that a detailed analysis of the labour force participation rates covering two steel centres, one in Hamilton, Ontario, and the other in Sydney, Nova Scotia, would illustrate the importance of the relatively greater extent of female participation in the labour force in Hamilton. One essential difference between the two cities in this context lies in the presence in Hamilton of textile and other light industries suitable for female employment.

Some practical indication of the importance of this question of the size of the labour force can be gathered from the fact that had the labour force participation rate in the Atlantic Region equalled that of Ontario in 1951, the effect would have been to add more than 50,000 man-years to the labour force of the Atlantic Provinces. The addition would have been considerably greater if the labour force had been proportionately equal in relation to total population in both regions.

#### *Weeks Worked per Annum*

There are also several subjects involved in the disparity in the amount of time worked by members of the labour force in the two regions, which is a further factor contributing to the difference in earned income per capita. The disparity in the amount of time worked arose in part from a higher rate of unemployment in the Atlantic Provinces. In June 1951, 3.7% of all paid workers in the Atlantic Region were without jobs or were seeking work, in contrast to 1.3% in Ontario, and it will be noted from the figures in Table 53 that unemployment has been consistently greater in the Atlantic Region, in about the same proportion, since that period.

Table 53

#### PERSONS WITHOUT JOBS AND SEEKING WORK AS A PERCENTAGE OF ALL PAID WORKERS AT SELECTED DATES IN THE ATLANTIC REGION AND ONTARIO, 1950-55

Date	Atlantic Provinces	Ontario
June 3, 1950	10.2	2.2
June 2, 1951	3.7	1.3
June 20, 1953	4.0	1.5
June 19, 1954	6.0	3.7
June 18, 1955	4.9	2.4

SOURCE: *The Labour Force*, June, 1950 and 1955.

These figures tend to understate the relative position because the differences are greater when the March rather than June figures are used. In March 1953 unemployment in the Atlantic Region was 7.9%, while it was 2.5% in Ontario. In the same month in 1954 it was 13.3% in the Atlantic Region and 5.7% in Ontario; and in the following year 14.3% in the Atlantic Region and 5.8% in Ontario. The loss of time, moreover, should include losses of income which are not covered by unemployment when this is defined as the state of persons who are without jobs and seeking work. This concept, for example, would not cover people who are working on a short-time basis. As such, they are not classified as unemployed. Temporary lay-offs of this nature, however, may serve to curtail considerably the earning capacity of the labour force.

A second element of the disparity in time worked by members of the labour force in the two regions relates to seasonality of employment. In industries characterized by seasonality of operation the workers concerned withdraw from the labour force in the slack period. For this reason they are not classified as unemployed, and the subject therefore requires separate attention. Seasonal variations in the size of the labour force are usually measured by expressing the low and the high peaks as percentages of the average of the year, the spread between the high and the low being referred to as the amplitude of seasonal variations. The figures for the Atlantic Region covering the period 1950 through 1955 show an average seasonal low of 95.2% and a high of 103.8%. The corresponding figures for Ontario are an average low of 97.6% and a high of 102.5%. Thus the amplitude of seasonal employment for the Atlantic Region, the difference between 103.8% and 95.2%, is 8.6%, while for Ontario it is 4.9%, the resulting margin being 3.7 points. This margin is significant. It is probable, however, that the figures understate the relative position because over the period the labour force grew by some 10% in Ontario, whereas it declined slightly in the Atlantic Region. Part of the reason for the high seasonal peaks in employment in Ontario is the intake of new workers consisting either of those who are joining the labour force after completing their school years or of immigrants. If this is taken into account, the difference is probably in the order of 5.0 rather than 3.7 percentage points.

Some particulars on seasonality in certain industries in the two regions are given in Table 54, which covers the Maritime Provinces and Ontario over the period 1947-51.

It will be seen that there are sharper seasonal trends in transportation employment in the Maritime Provinces.<sup>1</sup> This reflects in part the winter use of the ports of Halifax and Saint John. The construction industry falls off more sharply in the Maritime Provinces. Manufacturing also shows greater

<sup>1</sup> Figures are not available for Newfoundland. Seasonality is even more important in Newfoundland, as the northern areas are closed to shipping for some five or six months of the year.

Table 54

AVERAGE NUMBER OF EMPLOYEES AND AMPLITUDE OF SEASONAL EMPLOYMENT VARIATIONS  
IN SELECTED NON-AGRICULTURAL INDUSTRIES, ONTARIO, NOVA SCOTIA,  
NEW BRUNSWICK AND PRINCE EDWARD ISLAND (a)  
1947-51

Industry	Ontario		Nova Scotia		New Brunswick		Prince Edward Island	
	No. of employees	Seasonal amplitude	No. of employees	Seasonal amplitude	No. of employees	Seasonal amplitude	No. of employees	Seasonal amplitude
Manufacturing.....	510,900	3.0	23,800	8.3	18,300	14.5	680	14.2
Forestry.....	23,300	73.7	(b)	(b)	6,400	94.5	(b)	(b)
Coal-mining.....	(b)	(b)	13,100	5.8	(b)	(b)	(b)	(b)
Primary iron and steel.....	20,400	5.0	4,800	6.8	(b)	(b)	(b)	(b)
Construction —								
Building and structures.....	48,600	17.6	4,400	33.7	3,800	45.3	(b)	(b)
Construction —								
Highways, bridges and streets....	19,660	34.0	11,100	99.9	6,100	73.2	(b)	(b)
Steam railways.....	48,000	7.2	6,600	8.3	9,400	17.7	(b)	(b)
Water transportation.....	(b)	(b)	3,300	64.4	2,100	125.5	(b)	(b)
Retail trade.....	83,300	13.2	6,700	14.7	5,000	20.4	(b)	(b)
All non-agricultural industries (c).....	929,300	4.4	82,900	16.6	60,800	12.1	3,800	16.0

(a) No figures are available for Newfoundland.

(b) No figures or not applicable.

(c) Includes only firms employing 15 or more workers.

SOURCE: Department of Labour.

seasonal amplitude in the Maritime Region. In this instance manufacturing follows the Dominion Bureau of Statistics classification and includes primary processing. A further breakdown of the figures to separate primary and secondary manufacturing would unquestionably reveal the basic reason for the difference between the two regions regarding seasonality in manufacturing. Primary manufacturing, such as saw-milling or the processing of fish or other foods and beverages, tends to be more highly seasonal in nature than the production of the durable and other consumer goods associated with secondary manufacturing. Contrary to the norm of the industry elsewhere, coal-mining in the Maritime area shows little seasonal variation.

Some indication of the importance of the difference in time worked by members of the labour force in the two regions can be gathered from the fact that the calculations show it to have amounted to approximately three weeks less per paid worker. Stated another way, earned income per capita was lower in the Atlantic Region in 1951 because some 30,000 man-years were lost through differences in employment conditions as these relate to time worked. This assessment does not take into account the relative unemployment of self-employed workers, which is generally recognized as characteristic of certain sectors of the economy — farming, fishing and logging. The assessment therefore is probably an understatement.

The subject as a whole is not of equal importance in all the provinces within the Atlantic Region. In Newfoundland the level of earned income is particularly affected by these factors involving loss of time worked but is less so in Nova Scotia and New Brunswick. It might be noted, however, that two industrial areas in Nova Scotia, accounting for approximately one-third of the paid workers in the province, were continually during the past three years in either the moderate or the substantial labour surplus categories as defined by the federal Department of Labour. Saint John, one of the two industrial areas in New Brunswick, with a paid workers figure amounting to one-quarter of the total in the province, was in the moderate surplus category for all but one month of the past three years, and in that month the surplus was substantial. In contrast, throughout the whole of this period there were no industrialized areas in Ontario which showed continuing surpluses.

This subject is important in the first instance because of the loss of income. The chronic nature of the problem, however, has other important implications. Surplus labour inevitably affects the general wage level, and any continuance of lower wage levels impinges on the incentive of management to maximize output per worker. Higher wage rates, themselves the results of high productivity, which prevail in any region over a period of time, tend to cause pressure for higher capital investment designed to reduce man-power per unit of product. The differences between the two regions in this regard inevitably raise questions relating to labour mobility within the Atlantic

Region and draw attention to differences in the mixture of occupations in both areas.

### *Industrial Pattern*

It will be noted from the summary results of the analysis that differences in the industrial pattern or the variation in occupations in the Atlantic Provinces and Ontario are not assessed as a very large factor in determining the difference in earned income per capita. The calculations, it will be recalled, suggested that some 12% of the difference could be attributed to this factor. This refers, of course, to the *direct* effect. It must be emphasized, however, that the indirect implications of the differences in the industrial patterns of the two regions are much more far-reaching. Essentially, what the calculations indicate is that part of the problem of lower earned income per capita in the Atlantic Provinces springs from the richer admixture of the Ontario industrial pattern. There are far more workers engaged in low-wage industries and fewer in more rewarding occupations in the Atlantic Provinces.

This is apparent from Table 55, which shows the distribution of the labour force by industrial occupations in Ontario and the Atlantic Provinces according to the 1951 Census.

Table 55

### THE PERCENTAGE DISTRIBUTION OF THE LABOUR FORCE BY OCCUPATIONS IN THE ATLANTIC PROVINCES AND ONTARIO, 1951

	New found- land	Prince Edward Island	Nova Scotia	New Bruns- wick	Atlantic Prov- inces	Ontario
Agricultural.....	3.5	37.9	10.6	15.7	12.6	10.8
Logging.....	8.6	.7	2.3	8.7	5.4	.8
Fishing.....	17.3	5.7	4.5	2.6	6.6	.1
Mining.....	2.1	—	5.4	.6	2.9	1.1
Total resource industries	31.5	44.3	22.8	27.6	27.5	12.8
Manufacturing.....	8.1	6.1	10.0	10.3	9.4	20.0
Construction.....	6.7	4.9	6.3	5.2	6.0	5.7
Transportation and communications.....	10.4	6.6	9.4	9.7	9.4	7.4
Commercial, financial and service.....	15.1	15.4	19.4	15.3	17.0	16.4
Other (i.e. labourers and elec- trical-power, clerical, pro- fessional, proprietary and managerial workers).....	28.2	22.7	32.1	31.9	30.7	37.7
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

The two outstanding features of the statistics are the much greater proportion of the labour force which is engaged in the primary occupations — fishing, farming, logging and mining — in the Atlantic Provinces and the relatively high proportion engaged in manufacturing in Ontario. Farming, fishing and logging are low-income occupations by comparison with other industries in Ontario, but they constituted less than 12% of total employment in 1951, whereas they represented about 25% of the total in the Atlantic Provinces. On the one hand, about twice as many people in the Atlantic Region were employed in the lower-income occupations; on the other hand, manufacturing gave employment to proportionately more than twice as many people in Ontario. Manufacturing here connotes both primary processing and secondary manufacturing. On the basis of the breakdown secured for 1953, the figure, if related to secondary manufacturing alone, would probably indicate that proportionately three times as many people are engaged in manufacturing in Ontario. The breakdown shows that a much greater proportion of manufacturing in the Atlantic Provinces consists of primary processing. In many instances these activities tend to be seasonal in nature.

It is tempting to jump to the conclusion from these observations that the lack of secondary manufacturing is the essential problem underlying the lower level of earned income in the Atlantic Provinces. This is not a necessary conclusion, although a further development in this direction in the region may be considered desirable from other points of view. In this context it is instructive to refer to the relatively high levels of earned income in British Columbia, where these are based essentially on resource industries. What appears to be involved is the extent to which economic activity has been concentrated in industries which in the circumstances of the resources and the general economics of the region can be expected to offer optimum levels of income. Closely associated with this would be the question of the extent to which these industries have been able to realize their full potential in terms of productivity. Somewhat similar questions are raised when the analysis proceeds to the fourth and most important factor accounting for the disparity in earned income among the regions, namely, the difference in rates of earnings.

### *Rates of Earnings*

It will be recalled that the calculations indicated that nearly half the disparity in earned income per capita between Ontario and the Atlantic Provinces in 1951 could be ascribed to lower rates of earnings. It would have raised earned income per capita by some \$267 if these rates of earnings had been the same in both regions. These calculations are based on the estimates of average levels of income that appear in Table 56. The table shows the variations in income levels among industries and expresses the income levels of the Atlantic Provinces as a percentage of those of Ontario.

Table 56

**ESTIMATED AVERAGE EARNED INCOME PER WORKER BY  
INDUSTRIES IN THE ATLANTIC REGION AND ONTARIO, 1951**

Industrial classification	Ontario		Atlantic Provinces		Relative Ont. = 100
	\$ Income	% LF (a)	\$ Income	% LF (a)	
Agriculture, fishing and forestry.....	2,506	13.26	1,242	27.51	49.56
Mining, quarrying, etc.....	3,185	1.82	2,539	4.21	79.71
Manufacturing.....	3,152	33.17	2,090	16.63	66.30
Construction.....	2,493	7.57	1,732	7.35	69.47
Trade.....	3,082	13.57	2,148	12.34	69.69
Finance, insurance, etc.....	4,293	2.84	3,246	1.18	75.61
Transportation, storage and communication.....	3,066	7.10	2,178	9.32	71.03
Public utility operations.....	3,089	1.76	2,184	1.01	70.70
Services:					
Government.....	3,159	6.28	2,516	8.34	79.64
Community and recreational.....	3,100	5.08	2,020	5.19	65.16
Business and professional	4,583	2.13	4,689	.93	102.31
Personal.....	3,301	4.26	2,223	2.82	67.34
Others, not classified etc.....	1,637	1.60	733	2.17	44.78

(a) Percentage distribution of labour force expressed in male units.

SOURCE: See Appendix D.

Annual earnings per worker covering all forms of economic activity in the Atlantic Provinces in 1951, according to these figures, averaged some \$1,911, compared with \$3,051 in Ontario. They were thus 63% of the Ontario average. It is quite apparent from the table that there are important variations on this general theme. Some industries or sectors of the Atlantic regional economy show much less than the average disparity in earned income. The greatest disparity obviously lies in the farming, fishing and forestry categories. The figures are classified according to standard D.B.S. practices and thus refer to primary operations of these resource industries. If these sectors of the Atlantic regional economy are eliminated for purposes of calculations, the disparity in average annual earnings is lessened considerably. The average earnings covering all other industries and activities in the Atlantic Region in 1951 amounted to some 68.8%, or nearly 70% of the Ontario average. This contrasts with annual earnings in the primary aspects of farming, fishing and forestry (chiefly logging), which were about 50% of the Ontario average. Further examination of the more detailed figures available covering primary and secondary manufacturing in the Atlantic Provinces, reveals that there is little if any disparity between the regions in annual earnings in some industries, such as the pulp and paper industry. The difference in earned income in farming, fishing and logging is particularly

Table 57

WAGE-EARNERS IN THE ATLANTIC PROVINCES AND IN ONTARIO GROUPED ACCORDING TO  
EARNINGS DURING THE 12 MONTHS ENDING JUNE 1, 1951

Province	Total (a) wage- earners	Wage-earners reporting earnings by amount of earnings										Wage- earners not reporting	Total
		-\$500 %	\$500- \$999 %	\$1,000- \$1,499 %	\$1,500- \$1,999 %	\$2,000- \$2,499 %	\$2,500- \$2,999 %	\$3,000- \$3,999 %	\$4,000+ %				
Newfoundland.....	78,685	22.8	21.4	15.4	12.1	11.1	5.9	5.0	2.4		3.9	100.0	
Prince Edward Island.....	18,969	25.2	21.7	18.8	11.1	8.1	3.8	3.3	1.7		6.3	100.0	
Nova Scotia.....	175,975	15.7	14.7	16.1	16.6	15.2	8.7	5.9	2.3		4.8	100.0	
New Brunswick.....	127,070	16.3	16.6	19.3	15.5	13.2	6.6	4.9	2.1		5.5	100.0	
Ontario.....	1,564,726	8.6	8.3	12.7	16.8	20.1	14.4	11.1	5.1		2.9	100.0	

(a) Includes wage-earners not reporting earnings or weeks of employment.

SOURCE: Calculated from *Census of Canada*, 1951.

Table 58

## NET VALUE OF PRODUCTION PER WORKER BY INDUSTRY IN THE ATLANTIC PROVINCES, 1953

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Atlantic Provinces
	\$	\$	\$	\$	\$
Agriculture (a), forestry (b) and fisheries (c)	1,109	1,055	1,302	1,252	1,213
Agriculture (a)	n.a.	1,071	1,047	1,227	1,108
Forestry (b)	2,321	486	1,709	1,704	1,883
Fisheries (c)	610	1,039	1,513	655	918
Mining	4,746	—	4,051	5,000	4,291
Manufacturing	5,469	3,250	3,992	4,929	4,532
Primary (d)	5,767	2,326	3,474	5,187	4,497
Secondary (d)	4,613	4,499	4,491	4,675	4,572
Electric power	7,435	8,779	7,827	7,366	7,639
Construction	4,215	3,400	3,650	3,420	3,673
Average of the foregoing industries	2,817	1,566	2,981	2,746	2,770

a) No agricultural net-value-of-production figures are available for Newfoundland, and the agriculture employment figures for each of the Maritime Provinces have been calculated from *Census of Canada, 1951*.

(b) Forestry employment figures are taken from *Census of Canada, 1951*.

(c) The Newfoundland fisheries employment figure is a D.B.S. estimate.

(d) Nova Scotia primary iron and steel is included in primary manufacturing.

Source: See Chart II and the *Census of Canada, 1951*.

Table 59

## NET VALUE OF PRODUCTION PER WORKER IN MANUFACTURING IN THE ATLANTIC PROVINCES, 1953

	Newfoundland \$	Prince Edward Island \$	Nova Scotia \$	New Brunswick \$	Atlantic Provinces \$
<b>Primary</b>					
Foods and beverages .....	2,506	2,422	3,330	2,997	2,994
Wood products .....	1,801	1,963	2,765	3,141	2,769
Paper products .....	10,124	—	8,870	9,207	9,530
Chemical and allied .....	—	—	13,441	11,609	12,152
Iron and steel .....	—	—	2,799	—	2,799
Total primary .....	5,767	2,326	3,474	5,187	4,497
<b>Secondary</b>					
Foods and beverages .....	6,613	5,316	4,948	6,912	6,056
Leather goods .....	—	—	2,964	3,575	3,443
Textiles .....	2,512	2,211	4,621	2,931	3,264
Clothing .....	—	—	2,119	1,982	2,104
Wood products .....	1,397	1,641	2,919	3,632	2,612
Paper products .....	—	—	3,793	—	3,793
Printing and publishing .....	4,111	3,770	4,896	4,017	4,411
Iron and steel .....	4,430	3,166	4,995	4,264	4,704
Transportation .....	2,775	—	4,175	3,930	4,078
Non-metallic mineral .....	5,582	—	4,438	5,435	5,086
Chemical and allied .....	8,936	—	8,543	9,793	8,716
Other .....	2,176	5,414	6,952	4,898	5,713
Total secondary .....	4,613	4,499	4,491	4,675	4,572
Total manufacturing .....	5,469	3,250	3,992	4,929	4,532

SOURCE: Calculated from the D.B.S. manufacturing schedules.

important not only because the disparity is great but also because a large percentage of the labour force in the Atlantic Provinces participates in these activities. This emphasis is strengthened by the fact that the relatively large number of low-paid workers is primarily responsible for a large part of the difference in annual earnings between the two regions. The evidence of this appears in Table 57. The indirect effects of such a reservoir of low-paid workers on the general wage level of a region and on the incentive to rationalize productive activities has already been noted.

To a great extent the foregoing analysis has been directed toward the signs or symptoms of the disparity in income. It is recognized that these are outward expressions of a deeper problem. Some indication of more basic problems should be apparent from examination of the foundations of earned income. It is proposed, therefore, to review the data which are available on net value of production.

### *Net Value of Production per Worker*

Statistics on net value of output per worker are not equally available for all industries, and in some cases it has been necessary to use estimates in compiling the basic data for this review of net value of production per worker. The difficulty is centered largely on the absence of data and the problems of securing them as they relate to the labour force engaged in the primary resource occupations — farming, fishing and logging. These instances are noted in Tables 58 and 59, which show the net value of production per worker in 1953. The second set of tables, Nos. 60 and 61, expresses the net value figures for the Atlantic Provinces as a percentage of the Ontario figures.

Table 60

## NET VALUE OF PRODUCTION PER WORKER BY INDUSTRY IN THE ATLANTIC PROVINCES AS A PERCENTAGE OF NET VALUE OF PRODUCTION PER WORKER IN ONTARIO, 1953

	New- foundland	Prince Edward Island	Nova Scotia	New Bruns- wick	Maritime Provinces	Atlantic Provinces
Agriculture, forestry and fishing.....	49.3	46.9	57.8	55.6	55.2	53.9
Agriculture.....	n.a.	54.5	53.3	62.4	57.4	56.4
Forestry.....	38.4	8.0	28.3	28.2	28.0	31.1
Fishing.....	33.0	56.3	82.0	35.4	61.8	49.7
Mining.....	80.4	—	68.6	84.7	70.3	72.7
Manufacturing.....	84.0	49.9	61.3	75.7	67.0	69.6
Primary manufacturing..	71.6	28.9	43.1	64.4	51.6	55.9
Secondary manufacturing..	73.7	71.9	71.8	74.7	73.0	73.1
Electric power.....	117.1	138.3	123.3	116.0	120.8	120.3
Construction.....	84.8	68.4	73.4	68.8	71.3	73.9
Total.....	53.0	29.4	56.1	51.6	51.9	52.1

SOURCE: See Table 58.

Table 61

**NET VALUE OF PRODUCTION PER WORKER IN  
MANUFACTURING IN THE ATLANTIC PROVINCES AS A  
PERCENTAGE OF OUTPUT IN ONTARIO, 1953**

	Prince Ed- ward Island	Nova Scotia	New Brun- swick	New- found- land	Mari- time Prov- inces	Atlan- tic Prov- inces
<b>Primary</b>						
Foods and beverages.....	39.1	53.8	48.4	40.4	50.6	48.3
Wood products.....	46.8	65.9	74.8	42.9	70.0	66.0
Paper products.....	—	93.3	96.8	106.4	96.0	100.2
Residual.....	—	139.3	120.4	—	126.0	126.0
Total primary.....	28.9	43.1	64.4	71.6	51.6	55.9
<b>Secondary</b>						
Foods and beverages.....	69.4	64.6	90.2	86.3	78.0	79.0
Leather goods.....	—	86.2	104.0	—	100.2	100.2
Textiles.....	47.1	98.4	62.4	53.5	70.2	69.6
Clothing.....	—	62.7	58.7	—	62.3	62.3
Wood products.....	39.2	69.7	86.8	33.4	74.1	62.4
Paper products.....	—	59.8	—	—	59.8	59.8
Printing and publishing....	66.1	85.8	70.4	72.1	78.2	77.3
Iron and steel.....	49.9	78.6	67.1	69.8	74.5	74.1
Transportation.....	—	58.0	54.6	38.6	56.8	56.7
Non-metallic mineral.....	—	67.3	82.4	84.7	75.1	77.1
Chemical and allied.....	—	81.4	93.3	85.1	82.4	83.0
Other.....	108.2	138.9	97.8	43.4	238.3	114.1
Total secondary.....	71.9	71.8	74.7	73.7	73.0	73.1
Average total manufacturing....	49.9	61.3	75.7	84.0	67.0	69.6

SOURCE: Calculated from the D.B.S. schedules on manufacturing.

Thus in 1951 in the Atlantic Provinces, net value productivity in the commodity-producing sectors of the economy was at approximately 52% of the Ontario level. The disparity in earned income is clearly a reflection of a basic difference in net value productivity. Here, it might be repeated, the concept of net value productivity does not refer to physical volume of output per worker or reflect an individual effort or drive. Inasmuch as it is a value figure, it reflects sales realization. As a net figure it refers to value after certain expenses are met including in many instances, transportation to markets, a factor which would seldom be equal in a comparison between Ontario and Atlantic regional industries. Moreover, the inherent quality of commodities produced may vary considerably in terms of prices which they can command. Pine, for example, will command a substantial premium over spruce in the lumber market. In the context of these statistics, productivity indicates the relative effectiveness of the contribution of all factors — labour management and the resource itself — in the circumstances of market and often local circumstances. The expression of the results in terms of net value of output per worker is a matter of convenience — a

practical method of measurement. It is interesting to note that the figures for the Atlantic Provinces as a whole are not adversely affected by the figures covering Newfoundland. The influence of the Newfoundland figures is effective in changing the detail of certain emphases, raising or lowering the regional average as the case may be. As a whole the Newfoundland figures sustain the level of the other three Atlantic Provinces. The figures are not sufficiently accurate to support the suggestion in Table 61 that the Newfoundland figures generally raise the levels of output of the three Maritime Provinces.

Two important impressions emerge when the comparison of net value productivity is made on an industrial basis. In the first place, the disparity in net value of production per worker is not equally apparent in all industries. In the second place, the disparity is greatest in the primary resource operations — farming, fishing and logging. In regard to the former, more detailed figures on primary and secondary manufacturing show among other things that net value of output per worker in the pulp and paper industry in the Atlantic Provinces is fully equivalent to output in the industry in Ontario. Net value of production per worker in the primary processing of foods and beverages, on the other hand, is exceptionally low on a comparative basis. The influence of the Newfoundland figures appears to be favourable in all sectors of the regional economy, with the exception of the primary resource operations. Reliable figures are not available on employment in these industries in that province, but preliminary figures suggest that although net value of production per worker is considerably below the regional level in agriculture and fishing, it is above that level in woods operations. In part this reflects structural differences in these industries in Newfoundland. Fishing and agriculture in Newfoundland are typically small-scale operations, while logging is associated largely with the operations of the two large pulp and paper companies of the province. The high value of output per worker in these mills in Newfoundland is mainly responsible for the up-grading effect on the Maritime position in primary processing when Newfoundland figures are added to others of the region. It will be noted that the net value of production per worker was 55.9% of the Ontario level in primary manufacturing on an Atlantic basis as compared with 51.6% on a Maritime basis. The relatively strong position of Newfoundland and New Brunswick in net value of output in manufacturing as a whole again reflects the high productivity of the pulp and paper industry in the region.

In regard to the second impression given by the foregoing figures, namely the greater incidence of the disparity in net value of production per worker in farming, fishing and logging operations in the Atlantic Provinces, the impression is further emphasized when it is noted that output per man in these industries is less than 25% of average production per worker in all Ontario industries. Moreover, it is less than 45% of the average level in the Atlantic Region.

Table 62

NET VALUE OF PRODUCTION PER WORKER BY INDUSTRIES IN THE ATLANTIC PROVINCES  
AS A PERCENTAGE OF THE ATLANTIC REGIONAL AVERAGE, 1953

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Atlantic Provinces
Agriculture, forestry and fisheries.....	40.0 (a)	38.1	47.0	45.2	43.8
Agriculture.....	n.a. (a)	38.7	37.8	44.3	n.a. (a)
Forestry.....	83.8	17.5	61.7	61.5	68.0
Fisheries.....	22.0	37.5	54.6	23.6	33.1
Mining.....	171.3	—	146.2	180.5	154.9
Manufacturing.....	197.3	117.3	144.1	177.9	163.6
Primary.....	208.1	84.0	125.4	187.3	162.3
Secondary.....	166.5	162.4	162.1	168.8	165.1
Electric power.....	268.4	316.9	282.6	265.9	275.8
Construction.....	152.2	122.7	131.8	123.4	132.6
Average of the foregoing industries.....	101.7(a)	56.5	107.6	99.1	100.0

(a) Agricultural net-value-of-production figures not available for Newfoundland.

SOURCE: See Table 58.

Table 63

# NET VALUE OF PRODUCTION PER WORKER IN MANUFACTURING IN THE ATLANTIC PROVINCES AS A PERCENTAGE OF THE ATLANTIC REGIONAL AVERAGE, 1953

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Atlantic Provinces
<b>Primary</b>					
Foods and beverages.....	55.3	53.4	73.4	66.1	66.1
Wood products.....	39.7	43.3	61.0	69.3	61.1
Paper products.....	223.4	—	195.7	203.2	210.3
Primary iron and steel.....	—	—	61.8	—	61.8
Residual.....	—	—	296.6	256.2	268.1
Total primary.....	127.3	51.3	76.7	114.4	99.2
<b>Secondary</b>					
Foods and beverages.....	145.9	117.3	109.2	152.5	133.6
Leather goods.....	—	—	65.4	78.9	76.0
Textiles.....	55.4	48.8	102.0	65.7	72.0
Clothing.....	—	—	46.8	43.7	46.4
Wood products.....	30.8	36.2	64.4	80.1	57.6
Paper products.....	—	—	83.7	—	83.7
Printing and publishing.....	90.7	83.2	108.0	88.6	97.3
Iron and steel (a).....	97.7	69.9	110.2	94.1	103.8
Transportation.....	61.2	—	92.1	86.7	90.0
Non-metallic mineral.....	123.2	—	97.9	119.9	112.2
Chemical and allied.....	197.2	—	188.5	216.1	192.3
Other.....	48.0	119.4	153.4	108.1	126.1
Total secondary.....	101.8	99.3	99.1	103.1	100.9
Total manufacturing.....	120.7	71.7	88.1	108.8	100.0

(a) Excluding Nova Scotia primary iron and steel.  
SOURCE: Calculated from D.B.S. manufacturing schedules.

The foregoing tables do more than illustrate the relatively low output of the primary operations — farming, fishing and logging — in all the Atlantic Provinces. They point up significant differences among the individual provinces. These are more suggestive of structural problems within the regional industries than of differences of resources. The relatively strong position of Newfoundland regarding woods operations will be noted, for example, and also the stronger position of the Nova Scotia fisheries industry. The more detailed figures on manufacturing show a lack of any clear-cut pattern in regard to output in these industries within the region. Textiles, for example, appear to be much more productive in Nova Scotia than in New Brunswick. New Brunswick on the other hand appears more productive in the leather goods industry. It is hard to escape the conclusion that considerable importance must be attached to the situation of the individual firm in many instances rather than to the economics of the region.

The net effect of amalgamating the net-value-of-production figures for the primary operations of the resource industries with those of the processing of the products of these industries is to show the relatively more productive position of the forest products and mining and mineral-processing industries among the resource industries of the region. Net value of production in secondary manufacturing appears higher than in any of these industries defined in this way. The effect again is to focus attention on the low productivity of the primary operations of the resource industries, for the net value of production per worker in the primary manufacturing establishments differs little from that of secondary manufacturing in the region.

It is difficult to penetrate on a statistical basis the situation which accounts for the exceptional position of farming, fishing and logging in regard to net value of productivity. It is to be expected that this is, in part, a reflection of the relatively low capital investment record of the region. It soon becomes apparent that structural problems are also very real in these industries.

Unfortunately figures are not available to cover Newfoundland, but some indication of the source of low returns for Maritime agriculture is apparent in the following statistics covering net income from farms over the period 1951–55.

Table 64

### NET INCOME PER FARM IN THE MARITIME PROVINCES 1951–55 AVERAGE

	Prince Edward Island		Nova Scotia		New Brunswick	
	% Farms	\$ Income	% Farms	\$ Income	% Farms	\$ Income
All farms.....	100.0	1,586	100.0	963	100.0	1,217
Full-scale farms (a)	51.8	2,624	27.9	2,688	29.1	3,241
Other farms.....	48.2	470	72.1	295	70.9	386

(a) Defined as farms realizing over \$1,200 in gross sales as classified in the 1951 Census.  
SOURCE: Commission study, *Progress and Prospects of Canadian Agriculture*.

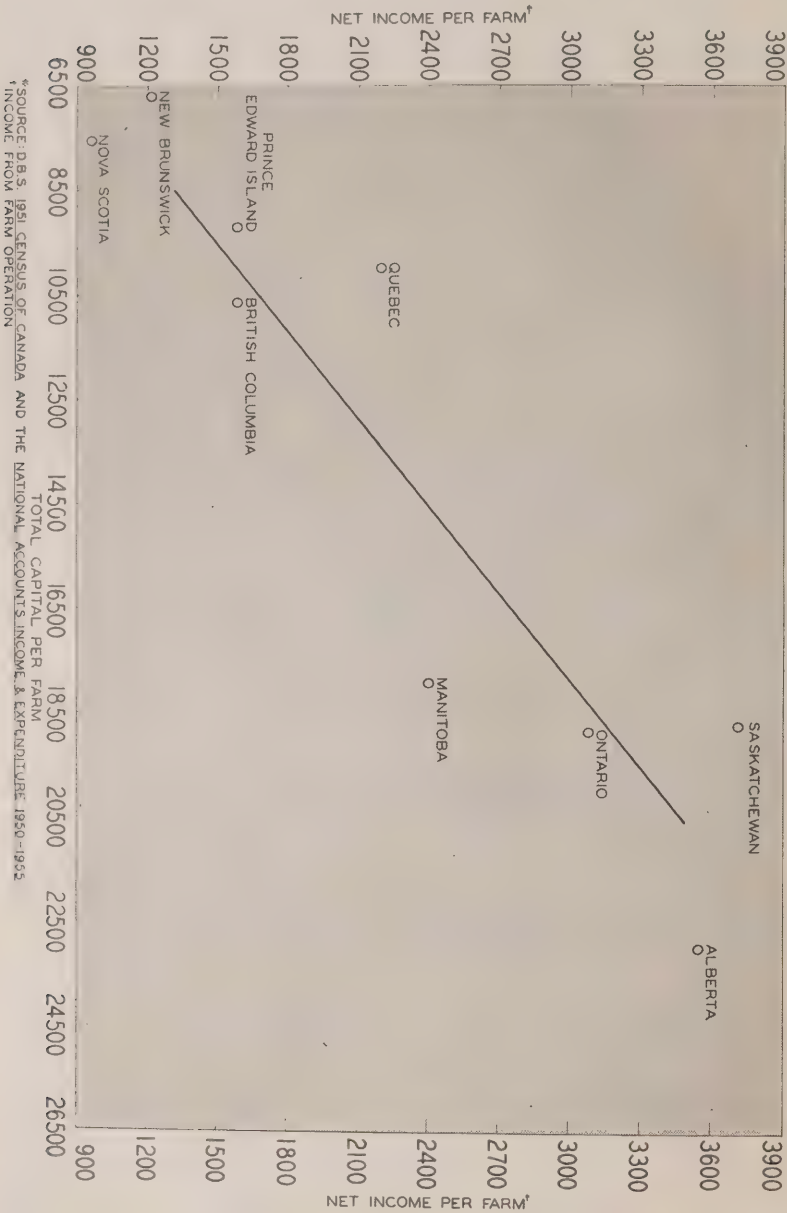
It will be seen that there is a very small proportion of full-scale farms in relation to the total number of farms. This is particularly true in respect of Nova Scotia and New Brunswick. In both provinces over 70% of the farms cannot be classified as full-scale agricultural operations. Even in Prince Edward Island the figure approximates only 50%. This may be contrasted with the situation in Ontario, where some 70% of the farms are full-scale. These farms in Ontario produce 96% of the gross sales of the total of provincial agricultural products. In Prince Edward Island full-scale farms, or some 52% of the total, produce over 85% of the gross sales. In Nova Scotia 28% of the farms, and in New Brunswick some 30%, account for nearly 80% of gross sales. Net income per full-scale farm in the Maritime Provinces is lower than for its counterpart in Ontario but is close to the average for Ontario farms. Although net income per full-scale farm for Prince Edward Island and Nova Scotia runs slightly below the Ontario average for all farms, that for New Brunswick is somewhat above the Ontario average figure. One essential point is that average net income for full-scale farms in the Maritime Provinces runs very substantially higher than for the average of all farms in the Maritime Provinces. In Prince Edward Island, where the contrasts are less distinct, full-scale farm income is nearly twice the average for all farms within the province. In the other provinces — Nova Scotia and New Brunswick — the income of full-scale farms is nearly three times that of the average farm income for the province. This pattern of agricultural activity can be traced back to the small size of average farms and the relatively small proportion of "improved" to total farm land. There are some farming operations of very high efficiency, but many of the units do not fulfil the essential conditions for commercial farming in the region. In these units capital investment is exceptionally low. This results in a very low average capitalization figure for the region. The net effect of this on agricultural incomes in the region is apparent from Chart X, which relates net farm income and capital investment per farm for all regions in Canada.

The high proportion of inefficient farm units is particularly important in the Maritime Region, since agriculture forms a fairly large part of the total economic activity of the area. Although statistics are not available for Newfoundland, there is little doubt that the situation there is even more extreme. Farm incomes are generally on a lower scale, and full-scale farming in relation to the provincial total is proportionately smaller.

Much the same situation appears to exist in the primary catching operations of the Atlantic fisheries. It is generally recognized that sections of the industry are highly efficient and that these operations yield well in terms of net value of production or in earned income per worker. On the other hand, the industry includes a relatively large number of low-productivity units, with the effect that the average operating results of the industry are reduced to a low figure. The statistical data available limit the extent to which the analysis of the relationship between output and capital can be pressed, but

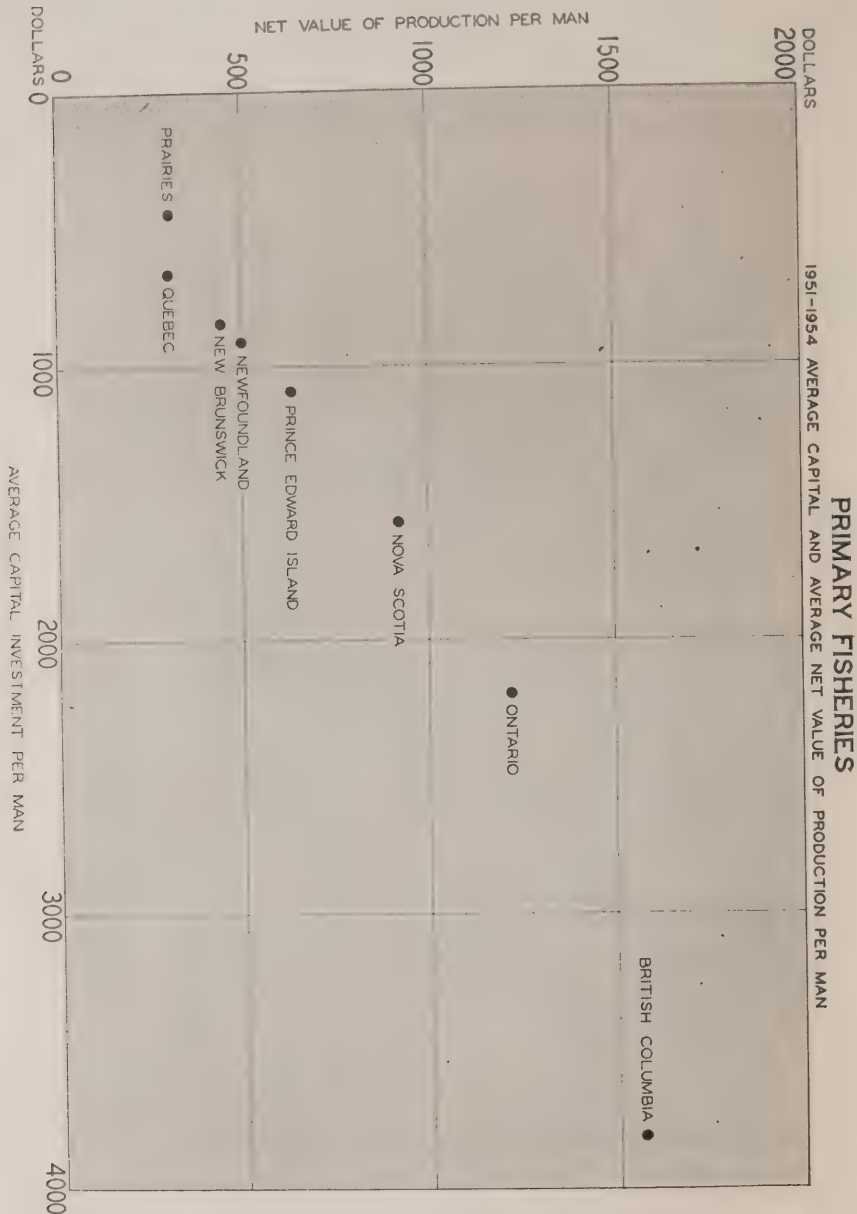
the evidence strongly suggests that low capital investment per man is an important factor of the relatively low productivity of the industry. The special study on the prospects of the fisheries industry in Canada prepared for the Commission indicated that a very considerable capital sum would be required by the industry in the Atlantic Region to meet the problem of

THE RELATIONSHIP BETWEEN NET FARM INCOME AND GROSS CAPITAL INVESTMENT PER FARM  
INVESTMENT 1951, INCOME AVERAGE 1951-55\*



obsolescent equipment. Implicitly, according to this report, technological factors are in advance of the actual operations of the industry as a whole to a significant degree. Some interesting data bearing on the question of capital investment in the fishing industry appear in an unpublished thesis, *Labour Productivity in the Primary Fishing Industry of the Maritimes and British Columbia*, by D. A. MacFarlane, McGill University, April 1957. Chart XI, which relates capital investment and output per man, is based on figures from this thesis and some special calculations made by Mr. MacFarlane covering the fisheries of Ontario, the Prairie Provinces and Newfoundland. It is clear from this that a distinct relationship between higher capital investment and high productivity covers the industry as a whole. For present purposes, the most important feature of the chart is probably the contrast it shows between the two major fishing areas — British Columbia and the Atlantic Provinces. Capital investment per man is considerably higher in the former province and is clearly reflected in the higher output per man. It will also be noted that there are significant differences in the position of the industry in the individual Atlantic Provinces and that again the figures point to the requirement for further capitalization.

The problem of measurement is much more difficult in respect of the primary logging operations of the Atlantic forest industry. Logging in Prince Edward Island is, to a great extent, an adjunct of farming and amounts to off-season participation in forestry. This is partly true of Nova Scotia and New Brunswick, and it is generally recognized by agricultural and forestry experts in the area that where logging can be associated with the regular cropping of large-scale farm woodlots, it greatly strengthens agriculture in the area. In contradistinction to such logging activities, there are the logging operations of the large pulp and paper companies highly characteristic of Newfoundland, where the trend is toward all-year activity and the integration of lumber and pulpwood operations. Operations on this scale are more conducive to the use of power-saws and other mechanical equipment and the fullest realization of the value of the products of the forests. Between these extremes there are lumber operators whose holdings, either freehold or leased, vary considerably in size. The evidence suggests that a relatively high proportion of the cut in the Maritimes as distinct from the Atlantic Region is carried out by small-scale operators. However, the biggest factors contributing to the relatively low net value per worker appear to be related to the greater seasonal amplitude of logging in the region and to differences in the value of particular species of wood where the product is marketed as lumber. The white pines and hardwoods of Ontario yield, as lumber, about twice the price received for the spruce and balsam of the Atlantic Region; while veneer birch logs in Ontario bring up to three times as much. These price differences obviously affect the relative productivity figures, for they are based on value



rather than physical volume of output. As they are net value figures and are net of transportation, they will again tend to understate physical output in the Maritime Provinces. The difference in yield, however, prompts the question whether the return from the Atlantic forest lands is not greater from pulp and paper products than from lumber products. The trend, it

has been noted, is toward increased use of the forests for pulp and paper production.

Seasonal amplitude in forest operations is, of course, related to a number of things, including weather conditions. In the Atlantic Region it is partly related to ownership of land, particularly in the Maritime Provinces. There is a much greater proportion of privately owned forest land in the Maritime Provinces than in the rest of Canada, and what is probably of greater importance is the fact that a considerable proportion of these lands are owned in small parcels, often by absentee owners. This feature of the Maritime situation has its roots in history, especially in the early colonial period, when land grants were integral to the settlement in the area. In the second place, those migrating from the region have tended to retain ownership of their land because depreciated land values over the years meant a capital loss if their assets were sold, and this factor has encouraged sentimental attachment to the old homestead. The importance of this aspect of the industry can be readily underestimated. The trend of the industry is toward sustained yield or the regular cropping of trees, and the small parcelling of the land is not always conducive to such practices and high forest productivity; and seldom so when related to absentee ownership. There are, of course, many instances of excellent yields from well-managed woodlots, which are usually associated with farming. In this regard, it might be recalled that several states in the United States, notably New York and Wisconsin, some 30 years ago implemented programmes designed to consolidate small holdings of agricultural and forest lands. The Province of Nova Scotia has sustained a limited programme of land purchase over a period of years, related mostly to restoring forest lands which have been burnt out or overcut.

It will be recognized from what has been said about this point that many of the problems of the Atlantic Region have their roots in history. The disparity in income is to some extent at least the culmination of a long process of events, and many of the factors underlying the disparity can be seen in their proper perspective only when they are considered from this point of view.

### *Historical*

It is not necessary or desirable to cover the economic history of the Maritime Region in detail. The subject has received a great deal of attention from time to time from Royal Commissions and from competent scholars.<sup>2</sup> It is the intention at this time to recall a number of basic features in that story and to suggest that certain factors may explain, in part at least, the relative lag of the region in economic growth. These factors also, it is believed, help to explain the relatively greater prosperity of certain industries in the region. A recognition of these may prove helpful in considering

<sup>2</sup> The reader's attention is called in particular to Prof. S. A. Saunders' *Economic History of the Maritime Provinces* and Prof. B. S. Keirstead's *Theory of Economic Change*.

methods of improving the economy and increasing the prosperity of the area. For statistical reasons it is necessary to confine the analysis to the Maritime Provinces, but the difference between these provinces and Newfoundland appears to be largely a matter of degree. The lag in development has been greater in Newfoundland over the long period, with consequences which must be taken into account in any approach to the region, but much the same economic factors have influenced and will continue to mould the development of that province now that it is part of the Atlantic Region.

In essence the story is one of difficult adjustment to changing economic circumstances. Included in these circumstances were those which developed at least in part from economic policies designed to create the Canadian nation. At the time of Confederation the economies of all the provinces entering into agreement were characteristically "pioneer" economies. The Maritime Provinces were relatively self-sufficient. Most of the essentials of living — food, clothing and small tools — were provided from within the home or by small local manufacturing establishments. The cash nexus was much less prevalent and was directed mainly toward the financing of imported hardware and more specialized manufactured goods from Europe, notably England, and rum, sugar and molasses from the West Indies and the United States. Part of these import transactions were covered by exports of salt fish and agricultural and forest products. The latter included wooden ships, in which the region had acquired a particular skill, as well as lumber. Little trade took place with the interior of the country, although there was a small movement of coal and fish on this linear basis. Characteristically, however, trade was orbital and reached out over the ocean to New England, the West Indies and Europe. There was a considerable deficit in the balance of trade, but this was offset by the carrying trade — trade which is romantically associated with the famous Bluenose and other classes of sailing vessels when they plied the seas of the world in search of cargo. These were the so-called days of wood, wind and water.

By 1867, however, there was evidence of instability in the established pattern of things. The United Kingdom had rescinded its former colonial preference system and the Navigation Laws. These measures had fostered Maritime trade with the West Indies and had promoted a flourishing lumber trade with the United Kingdom, a feature of which was the supply of white pine to the Royal Navy. In 1866 the Reciprocity Treaty with the United States was abrogated. Under its terms Maritime products — fish, lumber and coal — had enjoyed free entry into United States markets. This market had proved profitable, reflecting in part an increased import demand arising out of the Civil War in the United States. The abrogation of Reciprocity, it soon became apparent, was the harbinger of further restrictive measures imposed by the United States to preserve domestic markets for her own industries. The growth of restrictions on entry to the United States market as these have applied to Maritime fish exports has set a severe limitation on

a significant resource of the region. It is important to note in this regard that the pattern of United States protection which emerged — low duties on raw materials and severe imposts on processed materials — did more than restrict the total volume of production which could be marketed: it also limited the development of processing in the Maritime Region. Progressively, again, the markets for salt fish in the British West Indies became difficult as the cane-sugar industry encountered difficult competition from sugar-beet production in market areas which had formerly imported sugar. The restricted growth of the West Indies resulting from this and other developments in turn limited the development of the Maritime fish trade with the area; and the other potential markets in the Caribbean were not made available to offset this contraction. Over the years the worldwide spread of economic nationalism and the disruptions in international trade associated with two world wars have generally impinged on the growth of the Maritime primary industries; for these have been geared, in large part, to foreign markets. These developments tended to restrict growth both as to volume of production and as to the value which could be added to the primary product by local processing. The most important exception to this has been the more recent growth of pulp and paper production. Although there are artificial barriers limiting the variety of paper products which can be effectively marketed in the United States, these do not preclude newsprint. It is instructive to note that in one Maritime location pulp is literally pumped across the international border to be fabricated into fine papers in the United States. The introduction of the Canadian protective policy in 1879 is a part of this pattern of events, and it is not implied that the restrictions experienced were due entirely to external factors.

Although the course of events in this regard could not be foreseen, the literature of the period confirms that there was considerable disturbance at that time in all the provinces of Canada as to future foreign markets. Over the years, a progressive difficulty in securing overseas markets that could sustain a growing volume of imports from the Maritime Provinces, particularly of products to which value had been added by local processing, has impinged heavily on the prosperity and growth of the region. It was in the nature of things that the introduction of Canadian protective tariffs should aggravate the situation. It was inevitable that tariffs of this kind should impose higher production costs on Canadian export industries while retaliatory action tended to restrict its flow of international trade. The net effect had serious consequences for certain Maritime industries.

These export difficulties naturally gave emphasis to the importance of alternative markets in the interior of the country, particularly in central Canada. Such a transition in markets involved more than the substitution of long-distance haulage overland or seasonal water movements on the St. Lawrence River for cheap ocean transportation. To the extent of this diversion, the resources of the region became relative to the local resources

of the central areas rather than to those of the foreign market areas previously served.<sup>7</sup> It is a feature of the Maritime or Atlantic economy that, to a great extent, the products of the region are similar to and competitive with rather than different from and complementary to those of the central Canadian provinces. The products of the forests of the region, for example, have to compete with similar woods produced locally in the market areas of Quebec and Ontario. Again, the Annapolis Valley has its counterpart in the St. Lawrence Valley of Quebec and southwestern Ontario. It is interesting to contrast this situation with that obtaining in the West. The Prairie Region has some unique resources — for example, a unique comparative advantage in growing grains, notably hard wheat but also feed grains. Again, British Columbia has developed its forest products industry on the basis of Douglas fir. This enters central Canadian markets to supplement and complement the supply of other lumber products turned out in Ontario and Quebec.

If there were disturbing features in international trade in the earlier period, there were also harbingers of technological changes which were destined to play a major role in frustrating the destinies of the Maritime economy.<sup>8</sup> Steam and steel in the form of ships and transcontinental railways were rapidly gaining competence and acceptance. These were to undermine the carrying trade of sailing vessels and much of the wooden shipbuilding industry of the region. They were also destined both to isolate the region and to destroy its isolation. The greater speed of the mechanically driven ships and the increased size and efficiency of vessels which could be constructed from steel led progressively to the displacement of the sailing vessel. Speed, independent of weather in the instance of the steamship, favoured and increased the use of the St. Lawrence River ports of Quebec and Montreal. The Atlantic ports of the Maritimes were gradually bypassed except for a few months in the year. Meanwhile the introduction of railway services, notably from the Atlantic seaboard of New England to central Canada, cut the distance overland from the United States Atlantic seaboard to these markets considerably below competitive railway distances from the Maritime regional ports. This affects the time involved in the movement of goods as well as competitive costs.

The Maritimes then were progressively bypassed through technological developments relating to transportation. This state of affairs was aggravated by the fact that the Intercolonial Railway, built in the early period of Confederation in a programme designed to consolidate the nation and to facilitate the entry of Maritime products into central Canadian markets, was built along an all-Canadian route to avoid, for security reasons, transit through the State of Maine. In the early period, freight rates were set relatively low in recognition of these special factors. In 1912, however, there was an important departure in policy, and between 1912 and 1926 — a period of general expansion in Canada — rates were raised, largely on the basis of horizontal increases, to equal those obtaining in Ontario. The

advent in 1927 of the Maritime Freight Rates Act, which provided for special rate reductions, was an open attempt to restore the former situation. The measure of horizontal increases in rates since 1948, although not fully comparable to what it was previously, appears to accentuate once again the pressure of geography and economic facts toward the fragmentation of the Canadian economy. A special reduction in tariffs on certain imports entering Canada through Canadian ocean ports was made in recognition of the fact that there had to be some special inducements if it was desired to offset the disadvantages of these ports in relation to those of the United States Atlantic seaboard. But despite this reduction, the improved harbour facilities arising out of the work of the National Harbours Board, and the railways' policy of equating railway rates for export via the Maritime ports with those for the alternative United States ports, Maritime port activities have shown only limited development.

While this process of geographic isolation was developing, improved transportation into the area, accompanied by changes in techniques of manufacturing and marketing, gradually undermined the basis of earlier prosperity insofar as this was related to local manufacturing. Small-scale operations based on local requirements for the more simple modes of pioneer living increasingly felt the influence of changing markets as those requirements became more complex, and the impact of competition as railway communications from the United States and central Canada were established. Meanwhile the nature of the manufacturing industry changed. Mechanization and the assembly lines of mass production increasingly became the characteristic of successful factories. These new techniques laid the foundations for volume production at low unit costs. Volume production in turn called for mass markets. Under these circumstances the economics of factory location changed. Production increasingly moved to the centres of large population, for in this way transportation costs are reduced to a minimum for the maximum proportion of the total production. The exceptions to this general rule of economic location are certain primary processing industries which, because of their bulk, are often required to locate at the source of their raw materials, and those consumer goods or service industries producing specialty products or services which are not conducive to mass operations. Most of the industries which have prospered in the Atlantic Region conform to this pattern. It is also apparent that railway freight structures tended to accentuate the decline of manufacturing, for the practice of charging relatively low rates for low-value commodities, usually raw or semi-processed materials, inevitably favoured movement of these materials out of the region before rather than after local processing. This feature of Canadian freight-rate structure contributed, in part at least, to the progressive concentration of steel manufacture beyond the very primary stage of production outside the Atlantic Region.

Inadequate as are the statistics of the earlier period, the trend toward fewer and larger manufacturing units was clear in the central provinces as

well as in the Maritime Provinces, but the pull toward the larger population centres of Ontario and Quebec inevitably led to heavy concentration of manufacturing activity in these market areas. Inevitably also there was a process of agglomeration. One development facilitated another. The by-products of one industry served as the basis of another. The products of one firm were the raw materials of another, and each provided a pool of labour skills which attracted further development. The opposite process of disinvestment in the Maritime Provinces in general manufacturing and in wooden shipbuilding had, in turn, an adverse effect on the primary sectors of the economy. Depression in one sector of the economy rapidly reflected itself in the markets for the products of the land. Slow growth of industrial centres denied agriculture the mass markets upon which it depends for efficient production and reasonable financial returns. The decline of wooden shipbuilding lessened the value of the white pine resources of the region, pine being particularly suitable for this purpose. In the process of adjustment and in response to the expanding opportunities elsewhere — in the United States and in the other regions of Canada — there was a considerable movement of population from the region, and this emigration restricted the growth of the local market upon which, in some measure, manufacturing development depended. It is a feature of the economic history of the region that over the period since Confederation, it has sustained severe industrial capital losses in the process of adjustment to these changing circumstances. Disinvestment, of course, is an inevitable concomitant of economic growth and presents abnormal problems only when new investment fails to produce new industries or to change the nature of existing ones. Characteristically, new industries did not arise in the Maritimes to replace the old. Associated with this condition, have been social capital losses and the difficulty of accumulation of new social capital as revenue possibilities became relatively more difficult. Inevitably poverty problems became extensive in the process.

Theoretically, the population which became surplus as manufacturing declined and as the primary industries, in turn reacting to technological developments, became more highly capitalized and required less labour to produce what the markets could absorb, was free to move to areas of developing opportunities and in this way acquire comparable per capita income. In practice, distances, personal preference, and other realities which affect people's lives, set limitations to the process. Easy access to such occupations as primary fishing, logging or subsistence farming or to any combination of these, offered an alternative to these difficulties attractive to all but the well-financed or the young and vigorous and trained. Such occupations promote a way of life which tends to become self-perpetuating. As noted previously, a development of this nature tends also to retard the growth of industrial efficiency in general in the area by providing a reservoir of surplus labour and thus lessening the incentive to maximize output per unit of labour input.

It is instructive to contrast the Maritime record with trends elsewhere in Canada, notably in the Province of Ontario, with which so many of the comparisons have been drawn. Ontario was originally better endowed with resources to supply the requirements of a pioneer society, and these resources proved even richer and more extensive in the changing circumstances. If technological development impinged on Maritime development, quite the opposite is true in regard to Ontario. Developments in the field of the generation of hydro-electric power gave new meaning to its scenic watersheds and provided an abundance of cheap electricity. Progress in metallurgical practices gave new value to hitherto unimportant minerals, and the search for these revealed the treasure store of its northern and western sections of the Canadian Shield, considerable areas of which were ceded to Ontario some years after Confederation.<sup>3</sup> Deficient in solid fuels, the region had easy access to coals from the United States and, later, to oil from the Atlantic coast or western Canada. As already noted, the economics of the location of manufacturing facilities changed in favour of market location. In this, Ontario also gained by its proximity to the United States, for modern Canadian manufacturing developed to a great extent as an overflow from below the border, and capital and industrial techniques were more readily attracted to areas immediately adjacent to United States manufacturing areas. The application of steam and steel, which wrought such fundamental changes in the economy of the Maritimes, laid the foundation for expansion in central Canada as access to world markets was improved and as the centre of gravity of Canadian population moved westward in response to the railway link with British Columbia and the general development of the West. Protected from the cheaper products of the United States, where the economies of scale were even greater, Ontario progressively enjoyed the most favourable circumstances of all the regions for diversified economic development, circumstances which could be used to advantage because of the richness and diversity of its resources.

[ It may be said that much of the difficulty of the Maritime Region stems from the fact that the economy reached a relatively mature stage of development on the basis of one set of circumstances and was required to adjust to another set. In many instances, prior development added difficulties to the type of development which the new circumstances required, and the resources were less adequate for those circumstances. The difficulties of the region were aggravated by the necessity of adjusting at the same point of time to several powerful forces of change. Unfortunately, adjustments to technological changes coincided in time with adjustments to new fiscal and commercial policies which in themselves tended to impinge on certain important economic activities of the region. \

<sup>3</sup> Details of this and other transactions affecting the territorial expansion of Canada and the constituent provinces are to be found in a very informative treatise by Dr. N. L. Nicholson called *The Boundaries of Canada, Its Provinces and Territories*, Department of Mines and Technical Surveys, Memoir No. 2, 1954.

The pressure of events was not readily apparent in the years immediately following Confederation. In that period, notably during the early period of railway construction in the West, widespread investment in new industries in the Maritimes was expressive of a new confidence in the future of Canada and the role of these provinces in that future. By the turn of the century, however, the pace of development had slackened, and, with few intermissions, most of the period until 1939 was marked by very slow growth. Steel and coal production, the two industries which received benefits from the National Policy of 1879, expanded, but manufacturing as a whole declined. The World War I period provided for Canada as a whole the stimulus which saw manufacturing, briefly in 1920 and permanently after 1928, surpass agriculture in net value of production and prove important in subsequent mining developments in the country. The Maritime Provinces did not share equally in those developments nor in the general economic expansion characteristic in Canada during most of the '20's. It will be recalled that it was this persistent lag in development which prompted the federal government in 1926 to appoint a Royal Commission (Duncan) to report on the economic problems of the region.

At that time it was seen that very considerable disparity in income per capita existed. That disparity has neither disappeared nor increased over the past 30 years, although there have been some interesting fluctuations in the size of the gap within the period. This suggests that much of the adjustment process had been accomplished by 1926. One disturbing feature of the situation has been noted, namely the smaller proportion of total personal income represented by earned income in the Atlantic Provinces at the present time. Offsetting this, it appears that earned income per capita has been increasing at a faster rate than in some of the other regions including Ontario. One important factor that accounts for this and is indicative of the adjustment is the great improvement in earned income and net value productivity in the resource industries of the region. Expansion in output from these industries has accounted for nearly 70% of the increase in total gross value of production covering secondary manufacturing and the resource industries, as compared with about 30% for secondary manufacturing. The comparable figures for Ontario are 28.5% for the resource industries and 71.5% for secondary manufacturing. The growth of the forest products industry, particularly of the pulp and paper industry, has been an outstanding feature of economic growth in the area over the period 1926-56. Although the growth of the agricultural products industry was most important, the rate of the expansion in the fisheries products industry appears to have been a more powerful dynamic of the region in recent years. The rate of growth of the mining and mineral-processing industry again was somewhat higher than that of the agricultural products industry, a large proportion of this growth arising out of an expansion of primary iron and steel production. Much of this growth in the area was related to increased value of products rather than increased volume of production. This arose in part from increased

prices but very substantially from added value resulting from additional processing of products.

In the immediate period 1939–55, war or defence spending played an important role in the renewed vigour of the region.<sup>4</sup> The previous examination of the distribution of the labour force shows that there has been a relatively high increase in employment in the tertiary industries of the region. This has been associated with the increased use of its ports, but more particularly with the rising demands of expanded military establishments in the area for goods and services. Military payrolls have formed an increasingly important element in the regional economy, while the level of activity of the regional construction industry has been closely associated in recent years with defence expenditures. To a considerable extent more recent gains in the secondary manufacturing industry also reflect greater production and servicing of defence equipment. This is in part an inevitable result of increased military activity in the region, a recognition of the advantage inherent in local purchasing where practicable whether the product is from farm or factory. Developments of this nature may be seen as the modern counterpart, in the balance of payments of the region, of the former carrying trade plied by the sailing vessels of earlier days. In addition to this direct stimulating effect, these defence expenditures have had important indirect effects. The alternative occupations which they offered tended to draw workers from subsistence living activities and, by reducing the supply of available labour, prompted or eased the problem of increased rationalization of the primary industries. The rapid rate of the re-allocation of labour observed in the Atlantic Provinces in recent years is one of the most encouraging signs of their future economic growth.

It has been noted that the pace of development in the Atlantic Provinces slackened in 1946 and that the level of capital investment in the region over the period 1949–56 makes it difficult to withhold reservations regarding the future. The record of the past few years does suggest, however, that this slackening may not prove to be more than a momentary hesitation. To a considerable degree this hinges on developments in the mining and mineral-processing industry, and in particular on the extent to which the full potential of the New Brunswick base-metal discoveries is realized and the manner in which the problems of the Nova Scotia coal industry are resolved. Closely associated with these developments is the potential dynamic of the primary iron and steel industry. The evidence in fact suggests that the forward pace of most sections of the regional economy will continue to lag unless exceptional measures are undertaken to encourage its sound economic advancement.

Special aids have indeed played an important role in the recent growth of activity in the region. These have been given partly in recognition of the inevitability of the fact that in the course of nation-building, policies and

<sup>4</sup> See Appendix G.

practices will have an unequal effect on and yield unequal benefits to various industries and regions. Few of these have automatically proved as conducive to development in the Maritime Region as elsewhere in Canada. As already noted, the general impact of tariffs revised under the National Policy of 1879 required major and difficult adjustments in the Maritime economy and produced in the area few of the beneficial results that accrued to the other established regions of Canada. The region shared less in the benefits of the opening of the West, for in the long run this development tended to accentuate its geographic isolation. Again, circumstances were such as to make it almost inevitable that policies designed to encourage the production of military and defence supplies were not equally conducive to economic growth in the Atlantic Region.<sup>4</sup> Even more recent national projects, the piping of Western gas to central Canada and the construction of the St. Lawrence Seaway, on balance appear to impinge unfavourably on, rather than to encourage the growth of, the Atlantic regional economy. Aid, however, has been progressively extended from growing realization that the welfare of Canada itself is intimately linked with the prosperity and growth of its different regions; and it is notable that in recent discussions on the Atlantic Region all concerned have been focusing their attention on policies and programmes designed to produce these improvements at reasonable cost rather than on trying to justify such steps. This is far removed from the highly legalistic tone of earlier discussions on these problems or the critical outcries of the '20's. It is instructive also to note the changing emphasis in the aids that have been proffered.

Over a long period these aids largely took the form of financial grants to the Maritime provincial governments. As might be expected, the long-term economic stagnation of the region seriously affected the financial position of the provinces. The first major departure from the fiscal approach to the region came with the Maritime Freight Rates Act, which went into effect in 1927, the year following the report of the Royal (Duncan) Commission on Maritime Claims. This Act, according to its preamble, was designed to revise and improve the economics of the region, in particular to facilitate the entry of Maritime products into the markets of Ontario and Quebec and to stimulate the activities of the ports of the region by an increased flow of imports. In part, of course, the Act may be taken to represent a corrective to a departure from an original freight-rate policy. Its broader significance is apparent, however, when it is related to a further statutory provision whereby certain imports, when these entered the country through Canadian ports, were given special tariff concessions.

It is to be expected that many of the aids have been of an *ad hoc* nature: for over much of the period the rationale of prevailing economic theory was distinctly unfavourable to the broader economic approach. First aid might be rendered, but such aid could be justified only as a matter of political

<sup>4</sup> See Appendix G.

expediency. Moreover, in the earlier stages of discussions on the regional problem, at the provincial level, there was little appreciation of the distinction between a balanced provincial budget and sound economic development. Progressively, however, the trend of events has been to supplement fiscal aid with basic economic assistance, notably in the field of resource development, and it is possible to draw up an imposing list of such aids.<sup>5</sup> They include, for example, capital assistance to the coal-mining industry, to fisheries and to manufacturing enterprises. In addition to offering capital assistance to the agricultural industry, the federal government has undertaken a major role in the reclamation of the marshlands of New Brunswick and Nova Scotia and has contributed large sums of money annually in feed grain assistance in support of the growing livestock and livestock products industry of the region. More recently, financial aid has been extended to assist in making an inventory of the regional forest resources. Considerable capital expenditures have also been made to improve the facilities of the ports of Halifax and Saint John. These measures have been accompanied by extensive research activities on the part of federal government agencies in the region — the experimental farm stations, the Geological Survey's station at Sydney, Nova Scotia, the Fisheries Research Board's stations at St. Andrews and Halifax, and the more recent regional laboratories of the National Research Council on the campus of Dalhousie University, Halifax. In many instances these ventures have been on a joint federal-provincial basis, and the federal agencies have provided, on an informal basis, many technical advisory services to industry and local authorities.

Many such aids have been extended, of course, to other areas of the country, and in some instances the incidence of effective aid has undoubtedly been felt in these other areas owing to their particular circumstances. There has been growing recognition of the need for a special or exceptional programme for the Atlantic Region. While the need for a special programme of assistance is generally recognized, it is equally clear that the direction the programme should take, its dimensions and the priorities of individual programmes are not readily apparent. It is probably consistent with the general pattern of development in Canada that much of the leadership in these matters can be expected to come from the Atlantic area. This was recognized by the Commission in its *Preliminary Report*, and under its proposals the onus of initiative and leadership remains largely at the regional level.

The challenge is to a difficult task, for the questions are complex and many problems are deep-rooted. The evidence suggests that basic problems are involved, that a comprehensive approach is required and that unless the several problems of the economy are attacked simultaneously and in

<sup>5</sup> This was written before the recent federal government proposal regarding the construction of power plants in the region.

strength, any single or specific programme may well fail. While the challenge is to a difficult task, it is not to an impossible one. In view of the nation's past problems and Canada's present economic strength, there can be no lack of confidence in approaching this task. The most important promise of improved economic performance appears to lie in increased rationalization of the primary resource industries and a more extensive processing of the products of these industries. Although there are important problems associated with the development of information on the extent, nature, and better use of these resources, the problem is basically one of attracting capital to these industries. If the processing of their products develops satisfactorily, as in the instance of the refining of base metals in New Brunswick, it will lay the foundation for more diversified development as well as for higher personal incomes. There is some evidence for the suggestion that the regional market for goods and services has not been satisfied from local resources to the fullest extent within the normal framework of competition. Further diversification of the regional economy should also arise from the increased regional requirements for goods and services as incomes rise and population increases. A fuller appreciation of the economic significance of military activities in the region — in this case the market has been taken to the area — is providing an important stimulus toward increased secondary manufacturing as well as toward expanded service industries. Developments of this nature, if they are on a sufficiently large scale, can facilitate sound economic growth, notably by providing alternative occupations for those engaged in industries of declining importance or by attracting man-power away from low-income occupations. Continued and more rapid economic expansion in the region then will require considerable flexibility in the labour force, involving job transfers and in some instances geographical relocation. It is also apparent that transportation and communication problems are important aspects of potential improvements in the regional economy. Questions of improved facilities and adjusted charges underlie many of the region's prospective developments, including the increased use of its ports.

### *Basic Problems*

It is clear from the general analysis of the region that policy questions revolve largely around three basic subjects: the matter of increasing capital investment in the area; problems associated with the greater mobility of the population; and questions of transportation and communication.

### *Capital Investment*

It was a feature of the statistics on capital investment in the different regions that the Atlantic Region had not shared proportionately in the programme. It was particularly noticeable that investment had lagged in the industrial sector of the economy. Moreover, the record has shown that

capital losses have been somewhat characteristic of the longer history of the region extending from the decline of wooden shipbuilding and small-scale manufacturing to the more recent removals of apple trees in the Annapolis Valley and the closures of coal mines. Inherent in the problem of improved productivity — fundamental to any rise in income — is a basic need for increased capital investment including expenditures for exploration and development of the resources of the region. It is imperative to recognize that conditions in this area have not proved such as to attract private enterprise. It is possible that there are flaws in the capital market and that at intervals regional initiative may have been somewhat lacking. But it is inescapable that these could not explain either the general trend over a long period or the size of the disparity in investment.

In the past, two approaches have been taken to the subject of increased private investment: (1) a direct attempt to encourage the entry of capital by offering special conditions of investment — for example, special depreciation or other taxation concessions — and (2) indirect encouragement by improving the standards of basic services and facilities so as to give some support to greater private endeavour. In many instances a combination of both approaches has been employed. One aspect of United Kingdom policy in respect of its so-called development areas has been to encourage manufacturing enterprise by making factory space available at less than construction costs. The federal government of the United States recently undertook to provide technical advice as well as long-term loan capital to private enterprise operating in special areas.

Both the federal and the provincial governments have offered direct aid to encourage further private investment in the region. This has been largely in the form of capital loans but there have been important exceptions. In the instance of the fisheries, for example, the federal government has made additional aid available through grants on vessel construction and on certain specialized plant facilities. The recent creation of a regional office of the Industrial Development Bank in Halifax would appear to represent an important step in increasing this loan-capital aid to the region. The essential requirement, however, is usually for equity capital, and it is generally recognized that there are strict limitations to fostering development on a loan-capital basis. There are inherent dangers in such a programme, for overhead costs may become abnormally high and thus increase the vulnerability of an industry financed in this way. It is interesting to note that, in partial recognition of this, the repayment of the loan capital made available to the Maritime coal industry by the federal government has been related to the output of the mines. Thus the problem of increased industrial vulnerability has, in part, been avoided. In the United Kingdom, extensive participation in the field of equity capital has been a feature undertaking of the Industrial and Commercial Finance Corporation, an organization

owned by the Bank of England and the commercial banks and designed to assist the development of small industries.

It is generally accepted in Canada that the most desirable approach is the more comprehensive one of improving the economic environment in which capital has to operate. The provincial governments of the region emphasized to the Commission the need of the area for increased capital, and it is apparent from their representations that they share a common view that this basic approach is the most important one. The New Brunswick Government emphasized the provincial need for capital to support expansion of its forest and mineral products industries through a special programme of power development. The Newfoundland Government stressed the problem of developing basic communication roads as well as main highways. The emphasis in Nova Scotia was somewhat more on the requirement for loan capital for agriculture and secondary manufacturing but could be related to the programme of rehabilitating its forest lands. It will be recalled from what was said earlier on the relative financial ability of the regions to raise capital for developmental purposes that the Atlantic Provinces appear to be in the least favourable position. Further federal assistance to meet this problem obviously poses questions of the priorities of developmental programmes within the region, but it appears to be most important that it should be considered as investment rather than loan capital.

### *Mobility of Labour*

The fact that substantial disparity in personal income has persisted over a long period in the Atlantic Provinces strongly emphasizes the importance of the subject of mobility. Theoretically the people of Canada are free to move interregionally to areas of greater economic opportunity. A certain rigidity is readily understandable where income disparities are relatively small, where distances are great and where a language difference or other cultural characteristics are heavily involved. However, although distance is a factor of some importance in regard to the Atlantic Region, income differentials have been substantial and cultural factors would not appear to suggest any tangible barrier. These circumstances alone then warrant some inquiry as to the causes of the apparent rigidity.

Moreover, there is reason to believe that the subject will become of increasing importance to the region. In the first place, the higher birthrate of recent years has provided a backlog of young people who will contribute to an abnormal growth of the potential regional labour force. Secondly, it is apparent that future economic development in the region will call for structural changes in certain sectors of its economy, notably in coal-mining, fisheries and agriculture, which will require important adjustments in the labour force. This does not of necessity imply increased interregional

Table 65

## NET MIGRATION BY PROVINCES AND REGIONS BY 5-YEAR PERIODS FROM 1921 TO 1955

	Net migra- tion 1921-25	% popu- lation	Net migra- tion 1926-30	% popu- lation	Net migra- tion 1931-35	% popu- lation	Net migra- tion 1936-40	% popu- lation	Net migra- tion 1941-45	% popu- lation	Net migra- tion 1946-50	% popu- lation	Net migra- tion 1951-55	% popu- lation
ATLANTIC PROVINCES.....	—	—	— 43,994	— 3.4	— 13,742	— 1.1	— 13,650	— 1.0	— 35,165	— 2.4	— 78,320	— 5.2	— 17,990	— 0.9
MARITIME PROVINCES.....	— 37,336	— 3.7	— 39,633	— 4.0	— 12,520	— 1.2	— 4,866	— 0.4	— 28,112	— 2.4	— 61,458	— 5.2	— 28,159	— 1.7
Newfoundland.....	—	—	— 4,361	— 1.6	— 1,222	— 0.4	— 8,784	— 3.0	— 7,053	— 2.3	— 16,862	— 5.1	10,169	2.8
Prince Edward Island.....	— 7,401	— 0.8	— 1,828	— 2.1	— 802	— 0.9	— 1,869	— 2.0	— 9,080	— 9.6	— 5,735	— 6.1	2,963	3.0
Nova Scotia.....	— 33,000	— 6.3	— 24,267	— 4.7	— 5,068	— 1.0	3,328	0.6	5,902	1.0	— 40,761	— 6.7	— 17,277	— 2.7
New Brunswick.....	— 3,065	0.8	— 13,538	— 3.4	— 6,650	— 1.6	— 6,325	— 1.4	— 24,934	— 5.4	— 14,962	— 3.3	— 13,845	— 2.7
QUEBEC.....	— 80,466 <sup>(a)</sup>	— 3.4	45,369	1.7	1,538	0.05	— 5,438	— 0.2	— 36,168	— 1.1	133	—	80,287	2.0
ONTARIO.....	35,989	1.2	114,729	3.6	42,911	1.3	38,662	1.1	62,997	1.7	156,265	3.8	290,560	6.3
PRAIRIE PROVINCES.....	— 49,353	— 2.5	88,400	4.3	— 63,372	— 2.7	— 136,583	— 5.7	— 218,480	— 9.0	— 91,664	— 3.9	14,457	0.6
Manitoba.....	— 22,210	— 3.6	12,574	2.0	— 20,384	— 2.9	— 18,897	— 2.7	— 46,992	— 6.4	— 32,114	— 4.4	8,453	1.1
Saskatchewan.....	— 6,603	— 0.9	21,792	2.7	— 44,439	— 4.8	— 91,548	— 9.8	— 127,036	— 14.2	— 77,170	— 9.3	— 29,102	— 3.4
Alberta.....	— 20,540	— 3.4	54,034	8.9	1,451	0.2	— 26,138	— 3.4	— 44,452	— 5.6	17,620	2.2	35,106	3.7
BRITISH COLUMBIA.....	49,780	9.4	66,154	10.9	43,693	6.3	46,958	6.3	102,309	12.5	113,666	11.3	72,874	6.3

(a) Population of Northwest River Arm and Rigolet on Hamilton Inlet deducted from Quebec as they were awarded to Newfoundland in March 1927.

SOURCE: Calculated from *Vital Statistics*, 1953.

mobility, as the adjustments may be effected, under conditions of rapid economic expansion, by industrial transfers within the different provinces or within the Atlantic region. Some further analysis of the subject as it has affected the Atlantic Provinces may, however, be relevant regardless of the particular adjustment eventually effected.

It will be recognized that the subject of labour mobility is a very complex one and involves much more than the welfare of those who move. The problems of those who stay are often of much greater proportions, and a continual drainage of select groups from a regional population undoubtedly aggravates those difficulties. The welfare of all concerned is linked, however, with the maintenance of the utmost freedom of choice. This is what prompted a preliminary analysis of the problem of apparent rigidity. From the analysis which follows there does appear to be some evidence to suggest that specific economic difficulties impinge on the mobility of certain groups in the region, although further research would be required before any conclusive statements could be made.

For the sake of perspective it is desirable to state immediately that from 1867 to the present time, there has been an almost continual, and oft-times substantial, migration from the Maritime Region. Many have migrated to the United States, but Maritime emigrants have contributed on a considerable scale to the populations of Ontario and the western regions. Comparable data are not available for the years before 1921, but it is known that the net migration from the region between 1921 and 1955 amounted to some 212,000 persons, or some 21.2% of the 1921 Maritime population. It is interesting to note that this compares with a net migration for the Prairie Provinces of some 22.4% of their 1921 population. Mobility has been recognized as highly characteristic of the Prairie Region. It will be noted from Table 65 that migration from the Maritimes, although proportionately slightly less than in the instance of the Prairie Provinces, has involved a steadier adjustment and has been of substantial proportions.

Some interesting facts emerge from a study of two other sets of data. The Department of Health and Welfare provided the Commission with detailed information regarding the interregional movement of families which are the recipients of family allowances. The Dominion Bureau of Statistics also provided the Commission with a sample analysis of the movement of insured workers, with a further breakdown as to age and occupations.

Tables 66 and 67 set out the number of migrating families by region of origin and arrival, from 1947 to 1955 inclusive.

Table 66

**NUMBER OF MIGRATING FAMILIES (a) BY REGION OF  
ORIGIN AND ARRIVAL, 1949-55 INCLUSIVE**

Province of arrival	Province of origin					Total arrivals
	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	
1. Atlantic Provinces	—	5,374	12,465	2,082	2,013	21,934
2. Quebec.....	6,617	—	21,221	2,755	1,372	31,965
3. Ontario.....	19,901	25,725	—	20,441	6,654	72,721
4. Prairie Provinces.	2,555	2,569	18,271	—	21,045	44,440
5. British Columbia	2,269	1,561	7,432	29,170	—	40,432
6. Total departures..	31,342	35,229	59,389	54,448	31,084	211,492
7. Average number of "family al- lowance" families.....	226,269	550,850	663,125	376,263	169,250	1,990,276
	%	%	%	%	%	%
Emigration rate (line 6 divided by line 7).....	13.9	6.4	9.0	14.5	18.4	10.6

(a) Families receiving family allowance.

Table 67

**EMIGRATION OF FAMILIES RECEIVING FAMILY ALLOWANCES  
AS A RATIO OF ALL FAMILIES, BY REGION, 1949-55**

(per cent)

	1949	1950	1951	1952	1953	1954	1955
Atlantic Provinces.....	1.5	1.7	2.3	1.9	2.1	2.1	2.0
Quebec.....	0.7	0.8	0.9	1.0	1.0	0.9	1.0
Ontario.....	1.1	1.0	1.2	1.5	1.5	1.4	1.4
Prairie Provinces.....	2.0	1.8	2.3	2.2	2.0	2.1	2.3
British Columbia.....	2.8	2.8	2.7	2.8	2.9	2.7	2.0

It is interesting to note from the basic material for these tables, which appears in Appendix E, that family mobility in Canada, generally, has been steadily increasing over the period 1947-55. Further analysis of these data may cast some light on one of the phenomena of the foregoing tables, namely, that interregional mobility is greatest in British Columbia. The most probable explanation of this phenomenon is the considerable seasonal migration that takes place between British Columbia and the Prairie Region. It will be noted that the Atlantic Region is considerably above the average of the regions and stands fairly close to the Prairie Region. The greater proportion of families moving from the Atlantic Region went to Ontario.

The data from the survey of insured workers which covered a 5% sample (see Appendix F) indicate that some 73,680 persons or 2.3% of the total insured population of Canada moved from one province to another between April 1, 1954, and June 1, 1955. The somewhat unequal interregional coverage of unemployment insurance may tend to distort the relative position somewhat. However, it is apparent from Table 68 that on the basis of this survey interregional mobility is considerably less in Ontario and Quebec than elsewhere. The data in Table 68 indicate that the interregional mobility of insured workers in the Atlantic Region during the period covered was exceeded only in the Prairie Provinces. It will be noted that in the table emigrants are expressed as a percentage of the insured population and that the table shows the occupational distribution of those who moved between regions. Interregional mobility appears to be relatively high in respect of professional and clerical persons in the Maritime Region. A second feature to which attention is drawn is the very high mobility of workers in the fishing, trapping and logging industry in the Prairie Provinces. Both these features may have considerable bearing on any analysis of the problem of rigidity in the Atlantic Region.

Table 68

**OCCUPATIONAL DISTRIBUTION OF INSURED PERSONS WHO  
MOVED TO OTHER REGIONS BETWEEN APRIL 1, 1954,  
AND JUNE 1, 1955**

*(percentage ratio of emigrants to insured population)*

	Atlantic Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
All occupations.....	2.1	1.9	1.5	2.6	2.0
Managerial.....	2.1	4.3	1.8	2.5	2.3
Professional.....	5.8	3.7	2.9	3.1	3.1
Clerical.....	3.6	2.6	2.1	3.1	3.2
Transportation.....	1.5	2.1	2.3	2.5	1.6
Communication.....	0.4	2.5	1.5	3.2	1.6
Commercial.....	3.2	10.3	2.0	2.5	2.1
Service (other than professional)	2.0	1.5	0.9	2.1	1.9
Fishing, trapping and logging....	2.5	4.4	4.3	32.2	1.4
Mining.....	1.7	2.2	3.2	1.8	3.9
Manufacturing and mechanical	1.7	0.9	0.5	2.1	1.0
Construction.....	1.9	2.2	1.5	3.1	2.0
Labourers.....	2.2	1.9	1.3	2.9	2.0
Other occupations.....	1.5	1.9	1.8	2.9	3.2
Unspecified.....	1.5	1.5	1.6	1.3	1.8
Unemployed.....	0.2	0.3	0.9	1.6	1.7

SOURCE: Calculated from a special sample survey by the Dominion Bureau of Statistics.

A further matter of fact which bears on interregional migration is the high incidence of the lower age-group in the migration movement. Such

a phenomenon is to be expected in view of the greater mobility of the younger members of the labour force. It is, however, an important feature of the Atlantic migration situation that there is a relatively greater proportion of young people involved in the movement. The fact that a greater proportion of the young people do not remain to increase the regional labour force causes difficulties for the region — difficulties which are more acute because a relatively large proportion of these emigrants belong to a group possessing a higher degree of education or skill. It might be noted parenthetically that the training of these young people represents what might be called an “unrequited export” as far as the regional economy is concerned. This term, of course, applies with equal aptness in the case of the Prairie Region, notably in that of Saskatchewan.

It is interesting and may be instructive to compare certain features of the Atlantic and Prairie Regions in regard to mobility. In contrast to the Maritimes, the Prairie Region showed considerable mobility during the depression period of the early '30's. It will be recalled that conditions were particularly severe there at that time, for the general depression which then characterized the Canadian economy was coincident with severe drought conditions in the West. The result was that income per capita on the Prairies declined to a point even lower than the depression level of the Maritime Provinces. Mobility in this instance represented somewhat of a “forced march” as drought conditions made even subsistence living impossible in considerable areas of the Prairies. In the Maritimes the trend in the depression was the reverse. The element of subsistence living, it would appear, has continuously acted as a floor to the degree to which the standard of living can be reduced, so that migration from the Maritime Provinces has involved a more lively element of choice.

The most important fact of the Western situation, however, is that the greatest mobility took place during periods of prosperity, particularly during the 1941–51 period. It is a feature of the Prairie agricultural economy, which has caused most of the migration, that it operates almost exclusively on a cash-income basis. During the 1941–51 period, the decade of highest mobility, grain crops were good and prices were reasonably high. Moreover, technological forces, in the form of readily available improved farm equipment, were exerting pressure toward farm operations on an increased scale, with the result that land values appreciated. These must be conceded as ideal conditions for those considering transferring from one region to the other. The person concerned has cash with which both to pay the cost of transferring to another location and to provide for the period of adjustment involved. In the circumstances of appreciated land values, the migrant from the West could readily dispose of his farm assets and possibly realize a substantial capital gain. These conditions are in distinct contrast to those obtaining in many rural areas of the Atlantic Provinces. There, a relatively high percentage of people are close to living on a subsistence basis, with

varying emphasis on farming, fishing and logging, or on a combination of them. The problem of mobility is very different in such circumstances. Cash income is almost negligible in relation to the cost of moving over long distances the relatively large families involved. In the circumstances of the Atlantic Region, moreover, there has been no comparable increase in farmland value, and in most instances those occupying subsistence lands cannot market them. They must abandon rather than sell such assets.

There is little doubt that there are other factors bearing on the subject. The frontier psychology of the Prairie Provinces unquestionably fosters mobility. On the other hand, the Atlantic Region is more mature and the traditions of living go deep. These should not be underestimated. It is valuable, however, to set them against an earlier background of seafaring and venture in search of trade. It is inevitable that long-term economic stagnation should create its own problems and patterns of behaviour. The security of these established patterns is, of necessity, a strong deterrent to mobility, particularly in the case of those whose skills are not readily adaptable to the requirements of other occupations. Although the data available do not permit a more definitive analysis of the problem, the evidence does, however, appear to warrant the belief that there is a hard-core economic problem involved. To some extent at least, rigidity is a poverty problem which, as noted in what has been said of the primary industries of the region, is in turn related to an inadequate use of man-power and resources. Some interesting data will develop out of the current experience of drawing the scattered fishing hamlets of Newfoundland into a few concentrated communities. A special approach would seem to be required with the coal-mining industry in Nova Scotia. Insofar as there is a further displacement of miners, there is danger that the industry will be further impaired by the withdrawal of the more effective and vigorous from the labour force.

### *Transportation*

In the review of the future prospects of the regions, it was emphasized that transportation and communications have been among the most important factors in the creation and unification of the Canadian economy and that they will continue to exert very extensive influence on the shape of things to come. It will be recalled that it was felt that the special circumstances confronting the Atlantic Provinces in this regard — a certain lag in development of some forms of transportation and communications, the limited growth of port activities, recent and prospective freight-rate changes and the problematical impact of the St. Lawrence Seaway on the region — required more detailed analysis and specialized attention than could be undertaken in this study. It is clear from the evidence presented both by the provincial governments of the region and by the Maritime Transportation Commission that the subject is much broader than the question of freight rates. It is a further feature of this evidence that great importance is attached to the question of improved transportation and communication

facilities as well as to adjustments in freight rates, and that these improvements must be considered vital in any programme of improved industrial efficiency and future economic growth.

A preliminary approach suggests that there is considerable merit in relating any adjustments to the general pattern of regional growth in Canada. In what was said earlier, the contrast between the two basic regional modifications of freight rates — the Crows Nest Pass agreement in the West and the Maritime Freight Rates Act in the East — was noted and the question was raised whether the more general approach inherent in the Maritime Freight Rates Act could be expected to produce the desired results. Elsewhere reference is made to the restrictive influence of the freight-rate structure on manufacturing activities, including primary processing in the outlying regions. A lessening in the difference between rates of high-value commodities and low-value ones could have important implications for further processing in the Atlantic Region. A change in this direction, it appears, would be in line with the adjustments being forced on the railways by the loss of high-value traffic to truck competition and with the general trend of the transportation industry to base charges on average cost of service rather than on a value-of-service basis. It is this specific approach to particular resources and actual problems involved in fostering increased sales of specified commodities in the central Canadian markets which suggests the importance of improved highway facilities for some of the products which, at least under present freight-rate procedures, are more likely to reach these markets by truck transportation. Little more than a cursory glance at the map is necessary to prompt an inquiry as to the merits of extending such highway facilities in a more direct line toward these central markets by running them through the State of Maine. Again, the subject of a causeway from New Brunswick to Prince Edward Island gains considerable significance when studied in the context of a fully integrated system of all-weather arterial truck highways linking the main centres of the region with one another and with the markets of the United States and central Canada.

## THE NORTH

IT IS OBVIOUSLY not possible to try to assess the future prospects of the North, here defined as the Yukon and Northwest Territories, in the same manner as in the instance of the other regions of Canada. In the latter case it was possible to make some projections on the basis of the momentum and direction of past growth, and some appraisal of the degree to which these regions could be expected to share in the expansion of various Canadian industries. In the North development has been extremely limited and there is, therefore, little basis on which to assess momentum or direction of development. Again, although there are fewer than 30,000 people in the region, it covers some 40% of Canada. Conditions obviously vary considerably over such a vast stretch of country. In view of this, it is probably necessary to deal with the prospects of certain areas within these territories before attempting to offer some comments regarding the future prospects of the North as a whole.

### *Geological and Physiographic Features*

The Yukon is much more homogeneous than the Northwest Territories. Geologically the Yukon is largely a northward extension of the Cordilleras and their flanks which, it will be recalled from the description of British Columbia, extend right up the Pacific coast of the Americas. In contrast with large areas in the Northwest Territories, the Yukon is largely unglaciated, with the result that in the valleys there are fairly extensive deposits of soils which have some agricultural potential. The Cordilleras, it will be recalled, have shown considerable mineral wealth farther to the south in British Columbia, and the indications are that comparable wealth will be progressively uncovered in the Yukon Territory. Although little more than one-third of the area has been mapped, the geology of the Yukon makes it reasonable to assume that it is a very rich, relatively untapped source of minerals. Gold was for many years the main mineral product of the area, but more recently it has given place to both base metals and silver. In recent years gold production has ranged in value from \$2.1 million to \$3.6 million, whereas production of lead, zinc and silver, mostly from the Mayo District

of the Yukon, rose in value from some \$425,000 in 1947 to over \$13 million in 1954.

The Yukon Territory also has large potential hydro-electric resources, based largely in the headwaters of the Yukon River and certain of its tributaries. Estimated potential is for the ultimate production of roughly 4,500,000 horse-power of electrical energy, or about one-quarter of the hydro-electric capacity now developed in all of Canada. The proposed development would entail the building of power plants on the Taku River in northern British Columbia. A large proportion of the water used in the development of power would come through the diversion of water from the Yukon. The market envisaged is that arising from the metallurgical and metallurgical-chemical processing of ores brought in by sea and from additional supplies made available to the mining industry in the Yukon.

To date, hydro-power development in the Yukon has been limited to a few small plants. One plant, with a capacity of 15,000 horse-power, supplies the power required by the Yukon Consolidated Gold Corporation and also serves the city of Dawson. Another, with a capacity of 3,000 horse-power, supplies the United Keno Hills Mines Limited, and the third and smallest supplies the city of Whitehorse.

By way of contrast between the Yukon and the Northwest Territories, a large section of the latter — the Districts of Keewatin and Franklin — comprises a northern extension of the Canadian Shield, as will be seen from the geological map of Canada (page 28). Much of these districts is devoid of vegetation, except for low tundra vegetation, and in the Far North much of the area is frozen all the year round. This, however, is in distinct contrast with the Mackenzie river valley area, which constitutes an important part of the District of Mackenzie, the western section of the Northwest Territories. In this instance the Northwest Territories are a northward extension of the lowlands of the Prairies. Whereas the eastern parts of the Northwest Territories have been glaciated and much of the soil removed to the south, the Mackenzie river valley escaped this process, and the area is relatively rich in soil coverage. This is partly the reason why the vegetation in the Mackenzie river area includes some very considerable forest stands.

It will be recalled that the Canadian Shield elsewhere in Canada has progressively proved rich in mineral content, and the evidence already suggests that the Shield areas of the Northwest Territories will likewise yield a wealth of minerals. There are known deposits of iron ore of great magnitude in the Hudson Bay area (Belcher Islands) and just north of the Manitoba-Saskatchewan border, near Kasba Lake. In the District of Mackenzie the Shield has already proved rich in gold and uranium. There are at present three producing gold mines in the Yellowknife area. In 1939 the value of annual output of these mines was less than \$2 million; by 1954 it had risen to \$10 million. In addition to the activity at Port Radium, certain companies have been undertaking intensive exploration for radio-

active minerals northwest of Yellowknife and also at Hottah Lake, south of Port Radium. No figures on uranium output are published. There are rich deposits of lithium in the Great Slave Lake area. There are also several substantial deposits of base metals, of which much the most spectacular are the zinc-lead deposits in the Hay River area, south of Great Slave Lake. At this point a mineralized area some 36 miles long has been staked by a subsidiary of the Consolidated Mining and Smelting Company of Canada. Exploration work has indicated an ore potential of something over 60 million tons, a substantial part of which would be available by open-cut mining methods. Tests indicate that the ore is easy to treat. The deposits could provide the basis for one of the largest zinc-lead mines on the continent. Other base-metal deposits, less spectacular than that at Pine Point in the Hay River area but apparently of substantial dimensions, occur on both sides of the east arm of Great Slave Lake and in a belt running from Lake Athabasca in Northern Saskatchewan to Rankin Inlet on Hudson Bay. In this same belt, nickel deposits occur at Rankin Inlet and in the region of Ferguson Lake. Some development has taken place at Rankin Inlet. Sizeable copper deposits have been discovered near the Dismal Lakes not far from Coppermine.

The lowlands section of the Northwest Territories, which constitutes an important part of the District of Mackenzie and is of the type of geological formation that has proved highly productive of oil, gas and coal in the Prairie Region, has given strong indications that similar wealth exists in the North. Oil production in the area of Norman Wells has been carried on for more than 30 years, and there is little doubt that further exploration will establish that the oil resources of the district are very substantial. Already exploration permits have been granted for an area of some 19,000 square miles running down the Mackenzie valley to just north of Norman Wells. In addition, there is an exploration reservation straddling the Northwest Territories-Yukon boundary west of Fort Good Hope. There are also indications of oil in the northern islands of the District of Franklin. Natural gas is also known to occur at least in limited supply near Hay River. Coal, mostly bituminous in rank, also occurs in local deposits in several areas of the District of Mackenzie and in the island areas farther to the north. Production, however, is very limited in scale and is usually for strictly local use.

The Northwest Territories have no potential hydro-power resources comparable to those of the Yukon. There are a number of potential power sites of varying capacities which could be developed if the demand arose in these localities. The most important, located on the Slave River, between Fort Fitzgerald, Alberta, and Fort Smith, Northwest Territories, is reported to have a potential capacity of between 220,000 and 400,000 horse-power. This could prove a valuable resource in the event of lead-zinc mining developments if it should be decided to build an electrolytic zinc smelter at Pine Point in the Hay River area. To date hydro-electric power plants have been

constructed at Snare River (8,350 horse-power capacity) and at Bluefish Lake (4,700 horse-power capacity), both situated north of Yellowknife.

### *Climate*

The division of the North into separate areas is not only a product of geological and physiographic factors but also a reflection of considerable variations in climatic conditions. Characteristically, the eastern parts of the Northwest Territories are extremely cold and are classified as arctic. Technically this means that the average mean temperature of the warmest month remains below 50° Fahrenheit. The extremes of this obtain, of course, in the Far North, where much of the area is continuously covered with a blanket of ice. On the other hand, large areas of the Yukon Territory and much of the District of Mackenzie in the Northwest Territories do not experience such extremes of temperature. Climatically, these areas belong to the subarctic zone,<sup>1</sup> which extends across Canada from approximately the northern tip of the island of Newfoundland through the northern parts of the Provinces of Quebec and Ontario and the Prairies, reaches up the Mackenzie river valley and embraces much of the Yukon Territory. Thus, with more moderate temperatures and a certain residue of soil, these sections of the Yukon and Northwest Territories are much softer and of greater potential from the point of view of habitation than the other far reaches of the North and, in fact, than some of the northerly sections of the provinces. It is interesting to note, for example, that the average daily mean temperature throughout the five coldest months of the year, November to March, is 10° above zero at Whitehorse. This is the same as for Saskatoon and is 1° warmer than for Winnipeg. In the Mayo mining district the average, at 2° below, is only 6° lower than at Flin Flon. Such comparisons, however, become less favourable to the Yukon when the length of the winter is taken into account. The frost-free periods, which average 78 days at Whitehorse and 64 days at Mayo, stand in sharp contrast to the 112-day period at Saskatoon. The Yukon summer, though short, can be pleasantly warm. The records show that the average daily mean temperature at Mayo is 58°, only 7° or 8° lower than the temperatures of the same type reported for Saskatoon and Flin Flon respectively. Further, for the period from June to the end of August the corresponding differences in temperature are much the same. In Yellowknife, the centre of much of the mining activity being carried on in the Northwest Territories at the present time, the average daily mean temperature from November to March inclusive is minus 8°. This compares with 16° above zero in Edmonton and with the temperatures, already noted, of 10° above and 9° above in Saskatoon and Winnipeg. The average temperature in Yellowknife during June, July and August is 57°.

### *Economic Development*

The contrast within the North extends also into the background of past development. As is well known, the development of these territories extends

<sup>1</sup> That is, the summers are warm and for one to three months temperatures average above 50° Fahrenheit.

over centuries. In the first instance, exploration arose largely out of navigational adventures and the fur trade. The Norsemen are believed to have visited the northeastern part of the Canadian North as early as the eleventh century, at a time when their compatriots were carrying out the Norman Conquest of England. It is with Frobisher's voyages in 1576-78, however, that the detailed exploration of the North really begins. Among the names made famous in the succeeding years are Hudson, Baffin, James and the Dane, Jens Munck. In the latter half of the eighteenth century, through the efforts of the fur traders, Radisson and Des Groseilliers, "the Company of Adventurers of England Trading into Hudson's Bay" set up permanent quarters in the Canadian North and in 1771 Samuel Hearne, accompanied by his friend and Indian guide, Matonabee, actually crossed and recrossed the Northwest Territories, going from present-day Churchill to the mouth of the Coppermine River. The struggle between the North West Company and the Hudson's Bay Company led not only to great explorations but helped in the development of the logistics of travel in the North. In 1789 Mackenzie explored the great river system that bears his name, and four years later came the first crossing of the continent.

With the first half of the nineteenth century we find the emphasis being placed upon scientific ventures and, with the encouragement of the British Admiralty and the Royal Society, many formidable expeditions to the Canadian Arctic were undertaken. In the second half of the century we get the first of the great geological surveys, and then in the years 1903-06 the dream of Frobisher and the early explorers was finally realized when Amundsen sailed the Northwest Passage in the "Gjoa".

The first large-scale settlement of the North came just before the turn of the century, when relatively minor mineral investigations in the Yukon gave place to the discoveries of large deposits of tracer gold in the area. The famous Klondike gold rush of 1896 led to a rapid advance in development as population grew and railway communications through the Skagway to the Pacific ocean were established. Thus, within a few years, the Yukon gained its separate identity as a territory, having previously been included as part of the Northwest Territories. With this identification there also came a considerable degree of self-government under the aegis of the federal government.<sup>2</sup>

<sup>2</sup> In 1898 an Act of Parliament made the Yukon a separate territory and gave it a local government composed of a Commissioner and a Legislative Council of six members, all appointed by the federal government. In 1899 the Act was amended to provide for the election of two additional members, and in 1902 the size of the Council was increased to 11 members, five of whom were elected for terms of three years. At the same time the right to elect a member of the House of Commons was granted. In 1908 the Legislative Council, of ten members, became wholly elective. In 1919 the Council was reduced to three elected members, and it remained at this number until 1951, when it was again increased to five. In 1905 the Northwest Territories assumed approximately its present boundaries and provision was made for a Commissioner and a Council of four members or fewer to administer the government. The seat of government was fixed at Ottawa. The powers of the Council remained dormant for some time because the economy of the region was still based on the fur trade and was capable of sustaining only a scanty population. In 1921, after the Norman Wells discovery, the size of the Council was increased to six, and one member was designated Deputy Commissioner. The Council was still fully appointive. No further change was made until 1947 when a resident of Yellowknife was appointed to the Council. In 1951 the number of Councillors was raised to eight, three of whom were elected for terms of three years. In 1954 the Council consisted of nine members, five of whom were senior federal officials appointed by the Governor-in-Council and four of whom were local elected representatives.

However, much of this economic development was short-lived, and the population of the Yukon Territory is today much less than it was 50 years ago. In terms of population, the area declined progressively until the period of World War II. With the increasing demand for minerals and the advent of the Alaska Highway, which traverses the Yukon Territory as it runs to Alaska from the northern part of the Prairies, there was a considerable revival of economic activity in the area. Production of minerals increased, and more recently there has been considerable activity in the realm of mineral exploration. Accompanying this growth of activity, there has been some lumber and farm production, limited strictly to local market requirements.

The population figures for the Yukon Territory in part reflect these events. As will be seen from Table 69, there has been a large decline in population since the census of 1901 but a considerable pick-up since 1941. The indigenous population of the Yukon is made up largely of Indians. In this respect it contrasts with the Northwest Territories, where the Eskimoes predominate in the indigenous population. Few of the Indians have been absorbed into new forms of activity and they live largely as they have for centuries — by trapping and the fur trade. Over the past 50 years the Indian population appears to have declined in numbers, but in more recent years it has shown greater numerical stability.

Table 69

## POPULATION OF THE YUKON TERRITORY, 1901-51

Year	Total	Whites	Indians		Eskimoes
1901	27,219	23,897	}	3,322	{
1911	8,512	7,023		1,489	
1921	4,157	2,767	1,390		—
1931	4,230	2,602	1,543		85
1941	4,914	3,172	1,701		41
1951	9,096	7,533	1,533		30

SOURCE: Dominion Bureau of Statistics.

Development in the Northwest Territories, in terms of population growth and increasing productive activity, has been steadier than in the instance of the Yukon. Much of the settlement of the Northwest Territories has been concentrated in the milder areas of the District of Mackenzie along the Mackenzie river valley. Population grew from 6,507 in 1911 to 16,004 in 1951 in fairly steady progression. Once again, the Indian population, which is concentrated largely in the Districts of Mackenzie and Keewatin, has declined over the period. This is in contrast with the Eskimo population, heavily concentrated in the District of Franklin, to the north, where the population has shown a steady increase for several decades.

Table 70

## POPULATION OF THE NORTHWEST TERRITORIES, 1911-51

Year	Total			
	Total	Whites	Indians	Eskimoos
1911	6,507	1,650	}	4,857
1921	8,143	1,028	3,873	3,242
1931	9,316	1,004	3,689	4,623
1941	12,028	2,290	4,334	5,404
1951	16,004	5,321 (a)	3,838	6,822

Year	District of Mackenzie				District of Keewatin				District of Franklin			
	Total	Whites	Indians	Eskimoos	Total	Whites	Indians	Eskimoos	Total	Whites	Indians	Eskimoos
1911	4,823	not available			1,178	not available			506	not available		
1921	6,946	not available			992	not available			205	not available		
1931	5,321	867	3,672	782	1,919	73	17	1,829	2,076	64	—	2,012
1941	7,294	2,119	4,322	853	1,766	84	12	1,670	2,968	87	—	2,881
1951	10,279 (a)	4,915	3,838	1,503	2,301	176	—	2,125	3,424	230	—	3,194

(a) In addition there were 23 of Asiatic origins.

SOURCE: Dominion Bureau of Statistics.

As in the case of the Yukon, much of the more recent diversification that has occurred in the Northwest Territories has been related to mineral development and exploration. Oil production on a commercial scale commenced in 1920. The emergency conditions of World War II and the consequent construction of the pipeline to Whitehorse in the Yukon, the well-known Canol project, gave rise to greatly increased production. Subsequently, pipeline developments reduced output to more purely local requirements. The discovery of pitchblende on Great Bear Lake in 1930 brought Port Radium into existence. Mining activities commenced in 1933 but were suspended early in the war period. Their subsequent resumption was one of the factors that contributed to the rise in the output of uranium in Canada. The discovery of lode gold deposits in the Northwest Territories in 1933 laid the foundation for the development of Yellowknife as one of the major sources of Canadian gold production. Since the end of World War II, the Northwest Territories have shared in the great expansion in mineral exploration which has characterized so much of the Canadian economy. In addition to the new buoyancy this has given the area, it has led to a much greater appreciation of the potential mineral wealth of large sections of the Northwest Territories. Instances of this have been the proof of rich deposits of base metals in the Hay River area, south of Great Slave Lake, and of the nickel deposits of Rankin Inlet on the west coast of Hudson Bay. As in the case of the Yukon, there has been some development of

lumber and agricultural products, but for both commodities it has been very limited and restricted to the local markets. The expansion of fishing in the Great Slave Lake area has added to the export products of the Northwest Territories. Whitefish and lake-trout production has been running at some 5 million pounds a year, much of which is exported in fillet form to the United States. If limited in general significance to the area as a whole, this activity has meant a great deal in the local communities concerned.

If much of the more recent economic development of the Yukon and the Northwest Territories has had its roots in the general boom in mineral exploration and production in Canada, it has been facilitated and the economy of the region as a whole has been enriched by technological developments and improved facilities in transportation and communications. Air transportation, by reason of its reduction of the significance of distances, was destined to play a prominent role in the development of such an isolated area. World War II and subsequent years have seen a significant expansion of air transportation in the North, but the events of those years have also provided the stimulus to highway and road construction that has proved so important to the economic activity of the region. If the Canol pipeline proved to be temporary, the Alaska and Mackenzie Highways, which provided new access to northern Alberta and both to the Yukon and to the Great Slave Lake area of the Northwest Territories, have added significantly to the basic transportation facilities of the North. The war-time growth of airports and airstrips in the North also laid the foundation for the subsequent increase in aviation in the region, which has been occasioned partly by new defence activities, notably by the construction and operation of the network of radar stations, and partly by the initiation of transpolar flights by civilian airlines. No fewer than four major airlines — European, Canadian and United States — offer transpolar service between Europe and the North American continent. The progressive extension of such flights will have beneficial results for such communities as Frobisher Bay and Yellowknife.

If economic change in the North has tended to be slow over the past few decades, the basis of Northern economic activity has so broadened in more recent years that it now encompasses far more than the single-staple fur trade, and much of the foundation for future expansion has been laid in the process of recent growth. The process of change, however, has projected to the fore the problem of the region's indigenous population, the Indians and the Eskimoes. Associated with the expansion of regional activities already mentioned, there has been a measure of numerical decline in the animals that have long been these people's means of livelihood. Moreover, the introduction of synthetic furs and changing emphases in the world of fashion have greatly affected the price structure of the fur trade, bringing serious hardship to many of the Indians and Eskimoes. Health problems have also claimed more and more attention, partly because disabilities have increased among the populations and partly because their needs are being better looked after. To a limited extent, the services of the indigenous

population, particularly of the Eskimoes in the far northern reaches of the region, have been engaged in activities associated with defence stations in these areas. At present, however, the availability of alternative occupations capable of providing the basis of reasonable standards of living for these people is of major concern to the responsible authorities of the region. The future welfare of these sections of the regional population would seem to loom large in any consideration of the future prospects of the North. Although there is little evidence of special hardship elsewhere in the North, this problem threatens to become more serious.<sup>3</sup>

### *Future Prospects*

There is a consensus among those familiar with the economy of the Canadian North — the Yukon and Northwest Territories — that the future prospects of the region hinge largely on the expansion of mineral production and processing. Further growth of the other resource industries of the region depends to a great extent on the growth of local requirements in goods and services, an expansion which is thought most likely to result from expansion of the mining industry.

This is particularly true in respect of agriculture. It is an interesting feature of the Canadian North that millions of years ago large areas now comprised in the Northwest Territories were denuded of their top soil by glaciation. Dr. Charles Camsell, former Deputy Minister of Mines and Natural Resources for the federal government, pointed out to the Commission that this was Canada's first great export to the United States. In this, large areas of the Canadian North are in distinct contrast with the northern areas of Russia, which did not undergo the same processes of glaciation. Agricultural development, thus, will be strictly confined to the number of areas in which there is a residue of soil and to the river valleys in the Yukon Territory and in the District of Mackenzie of the Northwest Territories, where climatic conditions are less severe. Experimental farms have been conducting experiments over a number of years at Fort Simpson, Northwest Territories, and at Pine Creek in the Yukon. These indicate that vegetable and dairy production may be increased over the years but that no crops can be grown to any comparative advantage in the region. Technically there are sizeable pockets of agricultural soil both in the Yukon and in the Northwest Territories, but growing and other conditions keep production costs high. Only the high cost of the transportation of agricultural products into the area makes it feasible to contemplate expansion of the very limited farming now carried out in the North. Some expansion could be expected, however, in the event of a rapid increase in local market demands.

Much the same observations might be made in regard to the fisheries resources of the North. Commercial fishing has been confined largely to

<sup>3</sup> In the official brief of the Northwest Territories to the Commission, it is stated that "the social and economic situation of the native people in the Northwest Territories cannot wait. Either there is development in a few years to provide a broader economic base for the people there, or a major human problem must be faced." R. G. Robertson, *The Northwest Territories: Its Economic Prospects*, November 22, 1955, p. 24.

Great Slave Lake and is based on whitefish and lake trout, although there are also *inconnu* and herring and smaller quantities of pike and grayling. As already noted, a very considerable proportion of the catch from Great Slave Lake is exported in fillet form to the United States. Most of the remaining fishing activity in the North takes place in Great Bear Lake, the Mackenzie River and, in the Yukon, in the Yukon River. Given proper conservation practices, it is probable that the Great Slave Lake industry will experience some measurable growth, but the fisheries of the North as a whole are unlikely to increase in any substantial way. In locations other than on Great Slave Lake it will probably continue to be limited to fishing by the local Indians for their own consumption.

Table 71

**GREAT SLAVE LAKE FISHERY, 1949—55**  
(whitefish and lake trout)

Year	Summer season		Winter season		Total	
	Catch (‘000 lbs.)	Percentage of quota caught	Catch (‘000 lbs.)	Percentage of quota caught	Catch (‘000 lbs.)	Percentage of quota caught
1949-50	4,642	93	3,987	100	8,629	96
1950-51	3,947	79	3,690	92	7,637	85
1951-52	4,130	78	2,523	68	6,653	74
1952-53	4,091	77	2,932	79	7,023	78
1953-54	3,422	60	2,280	69	5,702	63
1954-55	4,142	73	2,485	75	6,627	74
1955-56	4,845	85	.....	....	.....	....

NOTES: The fishery started in 1945-46 when the annual quota was 2 million pounds dressed weight and the total catch was 1,205,041 pounds dressed weight. In 1946-47 this quota was raised to 3.5 million pounds dressed weight and was further increased in 1948-49 to 6.45 million pounds dressed weight. (The factors of conversion from dressed to round weight are: whitefish 1.18; lake trout 1.20.) In 1949-50 the quota was raised to its present level of 9 million pounds round weight — 5 million pounds for the summer season and 4 million pounds for the winter season. It was changed in 1951-52 to 5.3 million pounds for the summer season and to 3.7 million pounds for the winter season. In 1953-54, the summer quota was raised to its present level of 5.7 million pounds and the winter quota was lowered to 3.3 million pounds.

SOURCE: Department of Fisheries.

The prospects of the forest products industry in the North, however, are somewhat different. Contrary to the general conception of the North — that of a barren, snow-covered land — considerable areas of the Mackenzie river valley and of the Yukon are covered with forests of the boreal type. These consist of white and black spruce, tamarack, balsam fir, jack and lodgepole pine and Alpine fir. It is probable that there will be some fairly extensive development of these forests, several areas now being under lease for lumber production. As the trees are not of the type which produce exceptionally high-priced lumber, it is probably correct to expect that lumber production will be constituted largely, as in the instance of agriculture, for local consumption. The exceptional factor relates to the likelihood that

there will be considerable development of the regional forest products industry through the gradual northward extension of the pulp and paper industry of the Prairie Provinces, notably that of Alberta. It will be recalled that what has been said on the future prospects of the Prairie Region indicates that there will likely be a very considerable development of pulp and paper products in these provinces. The forests of the Northwest Territories represent a northern extension of what was thus indicated to be one of the most valuable undeveloped forest resources in Canada. The forests of the Yukon are, of course, an extension of those of British Columbia, and their development also is likely to arise out of the continual pressure of demand on the British Columbia forest products industry. It thus appears reasonable to expect the development of the forest products industry in the normal course of events, as a result of increasing demand and the inevitable pressure of the northern extension of Canadian forest resources.

To a limited extent the hydro-power resources of the North step out of the category of resources having strictly local significance. Generally, the North is not rich in hydro-power potential. There are, as noted, a number of untapped resources available for local projects, and these will eventually prove important, especially as, in the instance of the base-metal deposits at Pine Point, power requirements are of some significance to the particular industries involved. It will be recalled, however, that the power potential of the headwaters of the Yukon River is very great. Such power cannot be developed in small quantities but must be linked with large-scale industrial demand, probably associated in this instance with the location of a large metallurgical or chemical-metallurgical industry in the area of the Taku River. Developed on such a scale and for such a purpose, power would be available at low cost to other industries that might locate in the area. Because of the continued pressure on high-energy industries, locations such as this are likely to become increasingly attractive. If operations are located in British Columbia, there will be some concern farther north lest any arrangements to divert the waters of the Yukon River should fail to take into account the interests of those residing in the Yukon.

It is, then, the mineral wealth of the North that attracts most attention in any forecast of its economic growth. There is little doubt regarding the richness of the region's resources in this regard. The essential problem in any assessment of the growth of activity in this sector of the regional economy is whether the known resources will prove sufficiently attractive to overcome the disadvantages of the North and attract the further exploration necessary for continued growth, or whether transportation and climatic conditions will prove to be serious brakes on future expansion.

### *Basic Problems*

It is generally agreed that the factors of climate and transportation, especially as they affect the cost of producing and marketing mineral prod-

ucts, are the most important ones bearing on the economic growth of the North. Although the climate, in important sections of the Yukon and the Northwest Territories, is much less severe than it is quite commonly supposed to be, it is a definite limiting factor in mining operations. Its severity adds considerably to the industry's costs. At mines in the production and pre-production stages, it limits the season and increases the cost of certain types of construction and development work, and for new mines it has the effect of lengthening their pre-production period with its attendant costs. It likewise adds to heating costs to an extent that may be provisionally measured from data on degree-days of heat. By definition, for any one day when the mean temperature is less than 65°, this temperature being selected as the base, there are as many degree-days as there are Fahrenheit degrees of difference in temperature between the mean temperature for the day and 65°. The annual totals of these degree-days broadly measure annual heating requirements. On this basis, heating costs at Mayo or Yellowknife are 15% higher than at Flin Flon in northern Manitoba and 50% higher than in Sudbury. Again, the long, cold winters give rise to a substantial increase in the cost of living and carrying on any occupation, whether indoors or out. They add substantially to the cost of heating and to the cost of construction, and necessitate the use of proper clothing. These factors are reflected in the labour costs of the industry in the North.

Although the climate impinges on transportation in the region inasmuch as its severity makes water transportation, a big factor in the North, highly seasonal, the more basic problem of the region is its relative isolation from commercial markets and the difficulty of developing more suitable and less costly transportation in the circumstances of long distances, sometimes through difficult terrain, and of low-density traffic due to the sparsity of development in the region, to which might be added the imbalance between inward and outward freight movements. In the Yukon Territory, highways appear to be of crucial importance. The construction of the Alaska Highway focused attention on the implications of improvements in this direction and underlies the representations of the Yukon Territory to the Commission. An improved network of highways, it was suggested, "more than anything else would encourage that development which could well make a significant contribution to the Canadian economy of the next quarter century".<sup>4</sup> In the case of the Northwest Territories, the major emphasis was on the extension of the rail line to the south shore of Great Slave Lake, some 400 miles farther north than the present railhead at Grimshaw or Waterways.

The construction of such a railway would, according to the Administration of the Northwest Territories, have profound effects on the economic development of the whole of the District of Mackenzie. It was suggested that the cost of carrying general merchandise from Edmonton to Yellowknife would be 25% to 30% less than the present high cost of carrying such goods

<sup>4</sup> F. H. Collins, *The Yukon Territory* (a brief), p. 17.

by rail to Waterways and thence by barge. The proportionate reduction in rates would be progressively less to points down the Mackenzie River but, it is claimed, this would still be substantial. The main implication seen for the railroad, however, was the development of the large base-metal deposits at Pine Point. Freight reductions on outbound ore concentrates and on fish and the relief on the strain on the established rail-water system of transportation were also considered advantages to be gained from such a project. The base-metal development, however, was highly integral to the proposal, since the traffic from such a development would, as already pointed out, form the basic traffic load of the railway in the first instance. This traffic, it was estimated, would provide about 45% of the minimum required by the railway company if the line were built at public expense. The major rail systems — the Canadian Pacific Railway and the Canadian National Railways — have publicly stated that they are making a study of the economics of such a railroad. The former company has a direct interest in the possibility of mining operations in the area, as its subsidiary, Consolidated Mining and Smelting of Trail, British Columbia, holds the base-metal deposits under lease. A further suggestion covering improved transportation in the Northwest Territories placed similar emphasis, as did the Yukon proposals, on extension of the network of highways. In particular, it was thought that an extension of the Mackenzie Highway might foster considerable growth in the area by stimulating established communities such as Yellowknife. It is not possible on the basis of available data to make any realistic appraisal of any of these proposals. It is clear, however, that transportation questions are an integral part of the problem of more rapid expansion in the North.

These problems facing the North gain in perspective when set in the general pattern of the growth of the Canadian mining industry. For many years now this has taken the form of a gradual extension northward, and this epic of expansion over the past few years has renewed in Canada the sense of an economic frontier — an awareness of the country's Northland. To a great extent, however, the areas involved have been south of the 60° parallel, the southern boundary of the territories. Nor is there any doubt in the minds of those who have studied the prospects of the industry in Canada that this pattern will continue as railroads and highways are extended to the northern sections of the provinces, east and west, in response to the growing world demand for the products of the mines, and, in part, of the forests. In the past the extension of mining into the Yukon and Northwest Territories has been limited to the mining of ores sufficiently rich in mineral content to offset the cost disadvantages entailed in such northern activities. The Commission's investigations into the prospects of mining and mineral-processing in Canada indicate that the pattern of the past is likely to prevail for the next few decades.

Despite the great increase in demand for many of the products of the Canadian mining industry, which can be looked for with considerable

confidence, there is no indication of Canada's inability to satisfy that demand in the normal course of events. When comparable mineral deposits are available, development can be expected to take place in those areas which are closer to the market areas, and the evidence suggests that the northern hinterlands of the regions to the south of the Yukon and Northwest Territories will continue to be the economic frontier of Canada for the next few decades. With the foreseeable pressure of demand on the forest products industry, it is probable that sections of the Yukon and of the District of Mackenzie in the Northwest Territories will experience a growth of activity in the forests associated mainly with the pulp and paper industry. New mineral developments in these circumstances will tend to be restricted to the exceptionally rich or low-cost mineral deposits. A very strong case could be made to establish further transportation facilities to the Yukon and Northwest Territories if the evidence suggested that Canada would be unable to meet foreseeable demands on her mineral resources, for a period of time can be expected to elapse between the implementation of such a policy and any effective contribution by the region to the total of national output.

A further factor bearing on the question of improved transportation in the North is national security. It is difficult to assess the situation in regard to the need to foster economic development in the region for defence purposes. It will be recalled that in the years immediately succeeding Confederation, Canada expended large sums of money on transportation to open up the Prairie Region (part of the former Northwest Territories), in an attempt to forestall any possible settlement of these areas by the United States. It was a form of pre-emptive occupation which had a reasonably legitimate defence angle at a time when the United States was pursuing a strong expansionist approach to the North American continent as a whole. The circumstances of the North and of modern military strategic conditions make it difficult to assess what value could be placed on any similar policy. Much of the region's past development has arisen out of defence expenditures in the territories, and the maintenance of defence facilities such as the radar stations will undoubtedly continue to require civilian assistance. Associated with this will be an increasing employment of people in the region in connection with transpolar aircraft flights, for transportation via the polar route will undoubtedly continue to develop. In the circumstances of constantly changing technology and, in particular, with the prospects of intercontinental ballistics missiles replacing aircraft and, certainly, with the continual development of very long-range aircraft, there must come some changes in military strategy, some of which will inevitably affect the present plans for national defence. The general trend of most modifications, it would seem, is likely to curtail rather than enlarge military expenditures in the region. It is thus difficult to foresee any major dynamic of future economic growth in the North stemming from large-scale public investment in transportation or other improvements designed to foster development to strengthen the defence of Canada. A measure of pre-emption would not

be a novelty in the North. It is unlikely to become a significant factor in the economic development of the region.

It is possible that this appraisal of the prospects of immediate economic growth in the North is too cautious. It should be noted, however, that it is not in conflict with the more widely accepted view that the Canadian North is Canada's economic frontier of tomorrow. In many ways this will prove to be so, as the forest products industry, as well as the mining and mineral-processing industry, reaches out farther and farther into the hinterlands of the country. The prospects of the "North" in this sense acquire an aroma of romance and adventure, which long characterized the expanding areas of the "West". The greater caution arises when the North loses its identity below the 60th parallel. The real question, in fact, is whether the North, in the sense of Canada's economic frontier, will reach that far north to a degree sufficient to sustain the present rate of growth of the Yukon and Northwest Territories.

It is not possible, on the basis of information available, to foresee any resolution of the basic problems facing the Indians and Eskimoes of the region arising out of the normal course of economic growth in the North. Most of the Indian and Eskimo population are still engaged in primary activities — trapping, hunting and fishing. Cash incomes are confined largely to trapping. Neither the prospects of the fur industry nor the resources of the North in game suggest that these activities can support an expanding population at anything like Canadian standards of living. Fairly heavy relief expenditures have, in fact, been required to meet the growing hardship of both the Eskimo and the Indian populations. This is not to be confused with the improved welfare services which these peoples have shared in common with other Canadians in recent years. These social benefits — family allowances for children, social security payments to the aged, blind and disabled and improved health services — have improved the lot of many. There is considerable concern among those concerned with the future of the Northern Indians and the Eskimoes about the demoralizing effect of dependence on relief, especially at this stage of adjustment to the ways of an industrial society. This is considered to be of particular importance as regards the Eskimoes, for the impact of this society on the Eskimo culture is a recent development, the Canadian Arctic having become much more accessible since World War II. The Eskimo mode of life is thus in a state of transition.

Various federal government agencies have been directing efforts to meet these problems. The Indian Affairs Branch of the Department of Citizenship and Immigration, in co-operation with other departments, has attempted to introduce some stability into the traditional life and economy of the Indians and to supplement present means of livelihood. The steps taken include the introduction of game conservation and management measures, the provision of equipment, such as fishing-nets and boats, and of refrigeration facilities, and the giving of aid in house construction. The Department

of Northern Affairs and National Resources recently established an Eskimo Loan Fund to assist individuals or groups in carrying out approved projects for the improvement of their economy. Stone-carving and other handicraft activities are proving to be an increasing source of income to Eskimoes in many areas of the eastern Arctic. Boat-building has been successfully sponsored in other areas, while some families have been transferred or encouraged to move to areas where game or fur resources are more ample. The management of reindeer herds, introduced into the Reindeer Grazing Reserve near the mouth of the Mackenzie River in 1935 by Eskimoes, is in the experimental stage, as are a number of other projects designed to diversify and strengthen the Eskimo economy. The great majority of the Eskimoes who have accepted employment with either government departments or with mining companies have shown ability to adjust themselves to regular employment and have proved satisfactory workers. The recent initiation by the federal government of an extensive programme of construction of schools and hostels to provide for improved education of both Indian and Eskimo children is a fundamental step toward enabling them to meet the changing conditions of the North and eventually to make their maximum contribution to the development of the region. It is clear, however, that those concerned with these problems do not consider these measures adequate to the emerging situation, and there is considerable anxiety that more suitable measures should be adopted. The situation was eloquently stated in summary form by the Commissioner of the Northwest Territories in his presentation to the Commission.

"The human problem in the North," he said "lends a note of urgency to the need for economic development. The deposits of zinc or nickel that are not mined this year or next will be the same in ten or twenty years. The people whose economy is now disintegrating will not. . . . The human problems of today and the economic development of tomorrow are inextricably intertwined in the Northwest Territories."

The essence of the problem is that the Indians and Eskimoes cannot continue to depend on the natural resources of the Far North. Their future welfare depends in large part on their undertaking new occupations and moving to new locations. Such a change is difficult under more normal circumstances. In this case the difference of cultures involved makes the problem most complex. It is impossible to avoid the conclusion that the implications of the problem are far-reaching, that present policies require careful reassessment, and that new ones likely will be required to enable the Indian and Eskimo peoples to enjoy a rising standard of living and to participate fully in the changing pattern of economic life in the North.

## **APPENDIX**

# GROSS VALUE OF PRODUCTION BY PROVINCES AND REGIONS IN SELECTED YEARS, 1926-53.

	1926	1939	1946	Excluding Newfoundland 1953	Including Newfoundland 1953
1. Forestry.....	204,436,328	157,747,398	413,269,314	757,409,134	783,546,958
2. Processing (a).....	393,979,269	334,275,339	920,049,983	2,005,063,143	2,073,195,439
3. Forest products.....	598,415,597	492,022,737	1,333,319,297	2,762,472,277	2,856,742,397
4. Mining.....	137,332,840	372,766,736	401,461,216	943,453,800	973,136,895
5. Processing (b).....	106,466,113	293,574,193	360,249,698	977,837,336	977,837,336
6. Mining products.....	243,798,953	666,340,929	761,710,914	1,921,291,136	1,950,974,231
7. Fisheries.....	56,342,767	40,071,055	120,561,455	148,715,200	172,715,200
8. Processing.....	36,190,764	28,816,536	100,124,371	126,478,900	137,310,200
9. Fish products.....	92,533,531	68,887,591	220,685,826	275,194,100	310,025,400
10. Agriculture.....	1,204,778,000	951,218,000	2,000,715,000	3,226,711,000	3,226,711,000
11. Processing (c).....	511,181,113	503,422,455	1,270,365,218	2,036,994,497	2,042,810,544
12. Agricultural products.....	1,715,959,113	1,454,640,455	3,271,080,218	5,263,705,497	5,269,521,544
13. Other primary products (d).....	31,544,241	47,183,393	137,251,144	248,343,310	248,343,310
14. Total resource industries.....	2,682,251,435	2,729,075,105	5,724,047,399	10,471,006,320	10,635,606,882
15. Secondary manufacturing (e).....	2,029,354,858	2,265,313,256	5,244,411,837	12,281,658,382	12,303,403,342
16. Electric power.....	88,849,320	161,874,234	239,962,207	479,855,162	483,857,892
17. Construction.....	—	373,203,000	868,661,000	4,571,527,000	4,639,045,000
18. Grand total.....	4,800,455,613	5,529,465,595	12,077,082,443	27,804,046,864	28,062,513,116

(a) Includes saw and planing mills and pulp and paper.

(b) Includes non-ferrous smelting and refining, artificial abrasives, hydraulic cement and Nova Scotia primary iron and steel.

(c) Includes canning and processing, dairy products, grain mill products and meat products.

(d) Residual figures covering classified data.

(e) Excludes Nova Scotia primary iron and steel.

*Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)*

	Prince Edward Island				Nova Scotia			
	1926	1939	1946	1953	1926	1939	1946	1953
1. Forestry.....	705,457	551,130	1,146,189	1,999,238	8,120,919	8,019,931	17,311,397	23,653,340
2. Processing.....	—	203,804	709,085	1,029,224	—	9,427,779	28,294,742	46,985,205
3. Forest products.....	—	754,934	1,855,274	3,028,462	—	17,447,710	45,606,139	70,638,545
4. Mining.....	—	—	—	—	28,371,948	28,256,483	33,287,845	65,866,008
5. Processing.....	—	—	—	—	8,681,441	15,223,484	14,942,738	40,945,920
6. Mining products.....	—	—	—	—	37,053,389	43,479,967	48,230,583	106,811,928
7. Fisheries.....	1,358,934	950,412	4,470,877	4,048,900	12,505,922	8,753,548	34,270,762	40,012,200
8. Processing.....	945,485	615,383	4,479,928	3,641,600	7,663,724	6,531,571	32,254,050	37,439,700
9. Fish products.....	2,304,419	1,565,795	8,950,805	7,690,500	20,169,646	15,285,119	66,524,812	77,451,900
10. Agriculture.....	12,948,000	9,437,000	20,420,000	29,399,000	26,222,000	21,809,000	46,721,000	58,879,000
11. Processing.....	—	898,172	2,965,229	6,266,010	—	6,251,802	13,291,665	22,295,138
12. Agricultural products.....	—	10,335,172	23,385,229	35,665,010	—	28,060,802	60,012,665	81,174,138
13. Other primary products.....	—	743,232	867,982	—	—	1,112,923	2,245,304	2,216,632
14. Total resource industries.....	—	13,399,133	35,059,290	46,383,972	—	105,386,521	222,619,503	338,293,143
15. Secondary manufacturing.....	—	1,083,090	2,178,086	12,262,136	—	44,585,988	87,750,784	170,129,669
16. Electric power.....	158,607	326,420	561,804	1,555,221	2,206,171	5,548,336	8,480,811	17,720,901
17. Construction.....	—	1,948,000	2,381,000	14,222,000	—	19,891,000	40,859,000	141,184,000
18. Grand total.....	—	16,756,643	40,180,180	74,423,329	—	175,411,845	359,710,098	667,327,713

*Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)*

	New Brunswick				Newfoundland		Atlantic
	1926	1939	1946	1953	1953	1953	
1. Forestry.....	17,164,585	12,765,413	37,372,259	49,816,494	26,137,824	101,606,896	
2. Processing.....	—	22,481,150	67,351,095	121,913,157	68,132,296	238,059,882	
3. Forest products.....	—	35,246,563	104,723,354	171,729,651	94,270,120	339,666,778	
4. Mining.....	1,538,776	3,648,109	4,199,568	8,577,556	29,683,095	104,126,659	
5. Processing.....	—	—	—	—	—	40,945,920	
6. Mining products.....	1,538,776	3,648,109	4,199,568	8,577,556	29,683,095	145,072,579	
7. Fisheries.....	5,325,478	5,082,393	16,419,983	17,522,700	24,000,000	85,583,800	
8. Processing.....	2,658,703	3,469,313	13,320,477	15,246,300	10,831,300	67,158,900	
9. Fish products.....	7,984,181	8,551,706	29,740,460	32,769,000	34,831,300	152,742,700	
10. Agriculture.....	28,865,000	21,712,000	49,790,000	64,233,000	—	152,511,000	
11. Processing.....	—	4,407,533	13,661,627	27,417,262	5,816,047	61,794,457	
12. Agricultural products.....	—	26,119,533	63,451,627	91,650,262	5,816,047	214,305,457	
13. Other primary products.....	—	1,805,493	3,484,020	5,455,512	—	7,672,144	
14. Total resource industries.....	—	75,371,404	205,599,029	310,181,981	164,600,562	859,459,658	
15. Secondary manufacturing.....	—	33,894,662	72,936,522	125,718,188	21,744,960	329,854,953	
16. Electric power.....	1,399,166	3,838,907	5,743,824	12,203,451	4,002,730	35,482,303	
17. Construction.....	—	14,886,000	27,761,000	105,227,000	68,118,000	328,751,000	
18. Grand total.....	—	127,990,973	312,040,375	553,330,620	258,466,252	1,553,547,914	

*Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)*

	Maritimes				Quebec			
	1926	1939	1946	1953	1926	1939	1946	1953
1. Forestry.....	25,990,961	21,336,474	55,829,845	75,469,072	64,976,437	56,140,263	168,758,131	277,460,462
2. Processing.....	28,943,901	32,112,733	96,354,922	169,927,586	142,867,466	127,405,910	370,009,517	687,202,452
3. Forest products.....	54,934,862	53,449,207	152,184,767	245,396,658	207,843,903	183,546,173	538,767,648	964,662,914
4. Mining.....	29,910,724	31,904,592	37,487,413	74,443,564	14,425,453	71,141,842	79,744,856	214,666,797
5. Processing.....	8,681,441	15,223,484	14,942,738	40,945,920	13,735,583	91,059,675	118,131,729	387,649,914
6. Mining products.....	38,592,165	47,128,076	52,430,151	115,389,484	28,161,036	162,201,517	197,876,585	602,316,711
7. Fisheries.....	19,190,334	14,786,353	55,161,622	61,583,800	3,110,964	2,010,953	7,927,022	5,804,000
8. Processing.....	11,267,912	10,616,267	50,054,455	56,327,600	819,419	726,287	6,812,959	4,272,800
9. Fish products.....	30,458,246	25,402,620	105,216,077	117,911,400	3,930,383	2,737,240	14,739,981	10,076,800
10. Agriculture.....	68,035,000	52,958,000	116,931,000	152,511,000	159,964,000	146,169,000	336,733,000	504,284,000
11. Processing.....	9,387,967	11,557,507	29,918,521	55,978,410	82,983,020	96,311,119	226,088,482	465,713,818
12. Agricultural products.....	77,422,967	64,515,507	146,849,521	208,489,410	242,947,020	242,480,119	562,821,482	969,997,818
13. Other primary products.....	538,816	3,661,648	6,597,306	7,672,144	6,608,699	6,900,962	32,740,832	81,948,870
14. Total resource industries.....	201,947,056	194,157,058	463,277,822	694,859,096	489,491,041	597,866,011	1,346,946,528	2,629,003,113
15. Secondary manufacturing.....	87,060,942	79,563,740	162,865,392	308,109,993	620,637,170	721,959,736	1,742,656,342	3,759,997,009
16. Electric power.....	3,763,944	9,713,663	14,786,439	31,479,573	25,894,000	56,619,092	84,894,929	150,476,194
17. Construction.....	—	36,725,000	71,001,000	260,633,000	—	118,529,000	225,582,000	1,124,040,000
18. Grand total.....	292,771,942	320,159,461	711,930,653	1,295,081,662	1,136,022,211	1,494,973,839	3,400,079,799	7,663,516,316

*Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)*

	Ontario				Manitoba			
	1926	1939	1946	1953	1926	1939	1946	1953
1. Forestry.....	58,453,487	36,100,105	90,412,114	165,134,779	2,908,882	2,672,501	6,684,339	11,310,818
2. Processing.....	135,384,050	93,475,974	235,681,042	504,331,097	—	2,049,242	4,795,140	21,690,106
3. Forest products.....	193,837,537	129,576,079	326,093,156	669,465,876	—	4,721,743	11,479,479	33,000,924
4. Mining.....	44,897,331	163,777,896	131,099,106	233,726,481	997,464	17,431,848	10,924,867	15,622,197
5. Processing.....	30,524,434	145,420,773	147,951,490	435,116,213	—	10,100,709	8,961,787	14,642,965
6. Mining products.....	75,421,765	309,198,669	279,050,596	668,842,694	997,464	27,532,557	19,886,654	30,265,162
7. Fisheries.....	3,152,193	3,010,252	6,296,658	7,916,100	2,328,803	1,655,273	4,871,037	4,784,500
8. Processing.....	—	—	—	—	—	—	—	—
9. Fish products.....	3,152,193	3,010,252	6,296,658	7,916,100	2,328,803	1,655,273	4,871,037	4,784,500
10. Agriculture.....	318,703,000	268,987,000	580,215,000	860,903,000	113,441,000	77,127,000	174,288,000	246,499,000
11. Processing.....	296,923,877	256,389,618	554,488,615	894,505,833	—	44,439,989	147,854,335	177,516,623
12. Agricultural products.....	615,626,877	525,376,618	1,134,703,615	1,755,408,833	—	121,566,989	322,142,335	424,015,623
13. Other primary products.....	23,496,416	20,046,749	52,461,094	117,758,005	—	2,714,484	9,471,428	—
14. Total resource industries.....	911,534,788	987,208,367	1,798,605,119	3,219,391,508	—	158,191,046	367,850,933	492,066,209
15. Secondary manufacturing.....	1,125,420,745	1,229,854,747	2,763,194,890	6,924,793,842	—	74,970,083	180,686,740	371,022,765
16. Electric power.....	39,778,330	61,588,914	87,370,113	186,409,697	4,770,166	8,467,519	12,066,618	23,356,747
17. Construction.....	—	144,830,000	347,617,000	1,597,331,000	—	14,849,000	43,463,000	245,760,000
18. Grand total.....	2,076,733,863	2,423,482,028	4,996,787,122	11,927,926,047	—	256,477,648	604,067,291	1,132,205,721

*Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)*

	Saskatchewan				Alberta			
	1926	1939	1946	1953	1926	1939	1946	1953
1. Forestry.....	2,236,558	2,242,658	5,850,368	9,872,506	3,211,314	3,268,278	8,271,682	15,797,311
2. Processing.....	—	1,218,586	—	9,009,925	—	2,313,738	16,403,826	46,381,705
3. Forest products.....	—	3,461,244	5,850,368	18,882,431	—	5,582,016	24,675,508	62,179,016
4. Mining.....	979,281	7,468,156	26,688,379	36,280,687	25,231,763	28,203,141	52,585,318	237,780,541
5. Processing.....	—	5,523,671	18,705,977	—	—	Inc. with B.C. Inc. with B.C.	—	1,462,465
6. Mining products.....	979,281	12,991,827	45,394,356	36,280,687	25,231,763	28,203,141	52,585,318	239,243,006
7. Fisheries.....	444,288	478,511	1,148,886	1,281,300	749,076	430,724	1,339,083	1,085,900
8. Processing.....	—	—	—	—	—	—	—	—
9. Fish products.....	444,288	478,511	1,148,886	1,281,300	749,076	430,724	1,339,083	1,085,900
10. Agriculture.....	324,057,000	218,078,000	385,891,000	786,160,000	184,667,000	150,865,000	313,426,000	553,777,000
11. Processing.....	—	22,769,561	93,451,677	104,565,219	—	42,432,878	138,793,680	200,572,112
12. Agricultural products.....	—	240,847,561	479,342,677	890,725,219	—	193,297,878	452,219,680	754,349,112
13. Other primary products.....	—	6,091,954	5,710,906	—	—	1,127,050	6,232,221	—
14. Total resource industries.....	—	263,871,097	537,447,193	947,169,637	—	228,640,809	537,051,810	1,056,857,034
15. Secondary manufacturing.....	—	25,044,725	50,486,014	153,037,942	—	41,594,789	95,554,189	307,398,545
16. Electric power.....	3,071,082	5,105,620	7,705,605	17,765,979	3,452,654	5,841,867	9,864,138	23,820,895
17. Construction.....	—	13,429,000	29,277,000	235,195,000	—	17,856,000	51,573,000	556,008,000
18. Grand total.....	—	307,450,442	624,915,812	1,353,168,558	—	293,933,465	694,043,137	1,944,084,474

Gross Value of Production by Provinces and Regions in Selected Years, 1926-53 (cont'd)

	Prairies				British Columbia			
	1926	1939	1946	1953	1926	1939	1946	1953
1. Forestry .....	8,356,754	8,183,437	20,806,389	36,980,635	46,658,689	35,987,119	77,462,835	202,364,186
2. Processing .....	8,485,715	5,581,566	21,198,966	77,081,736	78,298,137	75,699,156	196,805,536	566,520,272
3. Forest products .....	16,842,469	13,765,003	42,005,355	114,062,371	124,956,826	111,686,271	274,268,377	768,884,458
4. Mining .....	27,208,508	53,103,145	90,198,564	289,683,425	20,890,824	52,839,261	62,931,277	130,933,533
5. Processing .....	2,446,022	15,624,380	27,667,764	16,105,430	51,078,633	26,245,881	51,555,977	98,019,859
6. Mining products .....	29,654,530	68,727,525	117,866,328	305,788,855	71,969,457	79,085,142	114,487,254	228,953,392
7. Fisheries .....	3,522,167	2,564,508	7,359,006	7,151,700	27,367,109	17,698,989	43,817,147	66,259,600
8. Processing .....	—	—	—	—	24,103,433	17,473,982	43,256,957	65,878,500
9. Fish products .....	3,522,167	2,564,508	7,359,006	7,151,700	51,470,542	35,172,971	87,074,104	132,138,100
10. Agriculture .....	622,165,000	446,070,000	873,605,000	1,586,436,000	35,911,000	37,034,000	93,231,000	122,577,000
11. Processing .....	112,023,673	109,642,428	380,099,692	482,653,954	9,862,576	29,521,783	79,769,908	138,142,482
12. Agricultural products .....	734,188,673	555,712,428	1,253,704,692	2,069,089,954	45,773,576	66,555,783	173,000,908	260,719,482
13. Other primary products .....	402,104	9,933,488	21,414,555	—	498,206	6,640,546	24,037,357	40,964,291
14. Total resources .....	784,609,943	650,702,952	1,442,349,936	2,496,092,880	294,668,607	299,140,717	672,867,994	1,431,659,723
15. Secondary industries .....								
16. Manufacturing .....	123,434,893	141,609,597	326,726,943	831,459,252	72,801,108	92,325,436	248,968,270	457,298,286
17. Electric power .....	11,293,902	19,415,006	29,636,361	64,943,621	8,119,144	14,537,559	23,274,365	46,546,077
18. Construction .....	—	46,134,000	124,313,000	1,036,963,000	—	26,985,000	100,148,000	552,560,000
Grand total .....	919,338,738	857,861,555	1,923,026,240	4,429,458,753	375,588,859	432,988,712	1,045,258,629	2,488,064,086

Sources: D.B.S. bulletins—*Estimates of Forest Production, 1945; Final Estimates of Forest Production, 1953; Fisheries Statistics of Canada, 1926, 1939, 1946 and 1953; Handbook of Agricultural Statistics, Part II, 1952; Farm Net Income, 1954; Central Electric Stations, 1926, 1939, 1946 and 1953; The Construction Industry in Canada, 1950; Construction in Canada, 1953-55; The Primary Iron and Steel Industry, 1926, 1939, 1946 and 1953.*  
D.B.S. schedules on mining and manufacturing.

## Appendix B

## GROWTH OF MANUFACTURING BY REGIONS, 1926-53.

*The Maritimes*

	1926			1939			1953		
	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment
Primary									
Foods and beverages.....	787	12	6,300	544	10	12,463	593	16	51,032
Wood products.....	684	9	10,951	838	6	5,937	1,369	7	19,202
Paper products.....	13	15	375,130	11	29	845,636	18	289	2,633,833
Primary iron and steel products.....	4	306	—	n.a.	n.a.	n.a.	5	983	2,752,200
Chemical and allied products.....	6	18	47,806	7	27	117,267	6	32	382,833
Total primary.....	1,494	12	12,324	1,400	12	20,739	1,991	15	60,279

[illegible]

(a) Net value of production per establishment includes primary iron and steel and establishments, etc., where (a) appears.

SOURCE: D.B.S.

*Growth of Manufacturing by Regions, 1926-53 (cont'd)**Quebec*

	1926				1939			1953		
	No. of establishments	No. of employees per establishment	Net value of production per establishment		No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment
Primary										
Foods and beverages.....	2,106	3	6,603		1,628	7	12,639	1,322	13	69,559
Wood products.....	1,352	7	10,095		2,129	5	4,882	2,612	8	26,864
Paper products.....	50	320	1,092,720		44	351	1,143,159	55	440	4,573,200
Non-ferrous metal products.....	12	142	832,336		4	669	7,141,250	9	1,168	13,716,556
Non-metallic mineral products.....	4	274	744,500		4	135	851,250	8	144	1,998,500
Chemical and allied products.....	—	—	—		12	108	247,500	30	174	1,383,500
Total primary.....	3,524	10	27,002		3,821	11	30,413	4,036	20	147,323

Secondary									
Foods and beverages.....	973	12	38,406	1,254	13	39,687	1,305	21	159,631
Tobacco and products.....	73	97	518,110	60	120	337,133	34	221	1,880,353
Rubber products.....	10	411	855,900	14	296	597,500	28	224	1,112,929
Leather products.....	198	60	82,313	274	52	56,942	375	48	138,811
Textiles.....	78	230	374,936	135	186	336,533	449	91	341,572
Knitting mills.....	37	92	128,378	56	139	180,982	—	—	—
Clothing.....	514	40	63,700	888	37	49,201	1,798	39	137,578
Wood products.....	167	24	44,018	255	29	40,075	750	19	69,315
Paper products.....	43	45	89,953	92	42	90,380	131	63	406,412
Printing, publishing and allied industries.....	306	24	56,359	502	19	38,647	1,130	16	84,512
Iron and steel products.....	202	80	190,827	263	63	144,027	621	69	384,045
Transportation equipment.....	270	52	77,381	85	122	196,306	123	356	1,851,008
Non-ferrous metal products.....	56	34	79,571	83	36	69,542	169	47	239,379
Electrical apparatus and supplies.....	19	276	574,368	27	186	417,296	86	238	1,261,232
Non-metallic mineral products.....	150	27	48,233	156	23	52,731	299	30	158,060
Products of petroleum and coal.....	9	181	742,667	12	137	1,187,167	17	231	4,201,059
Chemical and allied products.....	161	30	99,379	249	29	99,514	338	46	288,139
Miscellaneous industries.....	87	24	52,126	138	18	26,739	443	22	94,747
Total secondary.....	3,353	42	90,817	4,543	39	77,856	8,096	45	226,044
Total manufacturing.....	6,877	25	58,116	8,364	26	56,182	12,132	36	199,856

*Growth of Manufacturing by Regions, 1926-53 (cont'd)**Ontario*

	1926			1939			1953		
	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment
Primary									
Foods and beverages.....	1,956	10	27,432	1,948	13	35,710	1,632	22	134,033
Wood products.....	998	13	22,406	998	9	12,351	1,689	10	41,159
Paper products.....	45	229	865,422	38	252	853,921	43	433	4,120,465
Non-ferrous metal products.....	5	441	3,081,000	7	864	6,376,857	7	1,430	23,156,285
Non-metallic mineral products.....	3	268	1,198,333	17	77	400,588	16	189	2,212,938
Chemical and allied products.....	28	63	334,500	24	89	487,500	47	128	1,237,298
Total primary.....	3,035	16	47,225	3,032	17	58,537	3,434	26	209,987

[illegible]

*Growth of Manufacturing by Regions, 1926-53 (cont'd)**The Prairies*

	1926			1939			1953		
	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment
Primary									
Foods and beverages.....	460	15	44,339	557	16	45,978	470	34	198,766
Wood products.....	118	18	35,441	421	6	7,544	1,600	5	18,948
Paper products.....	—	—	—	—	—	—	3	168	2,671,667
Non-ferrous metal products.....	—	—	—	2	—	—	26	24	122,808
Non-metallic mineral products.....	4	70	482,250	2	—	—	—	—	—
Chemical and allied products.....	4	15	80,750	—	—	—	—	—	—
All other groups.....	—	—	—	n.a.	n.a.	n.a.	—	—	—
Total primary.....	586	16	45,785	983	14	34,390	2,099	12	64,290

Secondary	404	10	40,505	579	10	31,686	526	19	152,019
Foods and beverages.....	3	1	3,667	1	—	—	—	—	—
Tobacco and products.....	—	—	—	3	—	—	—	—	—
Rubber products.....	19	12	16,211	51	10	11,098	38	19	57,395
Leather products.....	16	21	50,875	24	17	36,042	57	21	74,404
Textiles.....	9	19	34,111	10	19	22,807	—	—	—
Knitting mills.....	71	31	49,099	135	25	32,274	211	35	117,768
Clothing.....	62	16	36,952	104	16	25,558	279	14	59,731
Wood products.....	13	24	54,923	16	25	58,896	32	41	298,594
Paper products.....	369	11	32,970	495	10	21,796	683	11	56,277
Printing, publishing and allied industries.....	64	38	101,750	93	27	58,838	317	29	178,423
Iron and steel products.....	40	137	191,350	36	170	261,028	53	213	726,849
Transportation equipment.....	13	13	40,769	15	10	33,224	—	—	—
Non-ferrous metal products.....	10	11	24,700	14	11	25,929	25	35	196,360
Electrical apparatus and supplies.....	67	20	43,537	86	13	25,767	137	28	208,584
Non-metallic mineral products.....	18	42	319,167	30	43	252,900	35	87	1,350,200
Products of petroleum and coal.....	41	13	53,927	65	13	45,723	76	26	200,710
Chemical and allied products.....	26	6	11,577	42	7	13,786	106	14	70,613
Miscellaneous industries.....	1,245	19	50,263	1,799	16	37,736	2,575	25	145,419
Total secondary.....	1,831	18	48,830	2,782	15	36,554	4,674	19	108,986
Total manufacturing.....									

*Growth of Manufacturing by Regions, 1926-53 (cont'd)**British Columbia*

	1926			1939			1953		
	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment	No. of establishments	No. of employees per establishment	Net value of production per establishment
Primary									
Foods and beverages.....	234	45	53,953	236	22	58,373	260	389	231,696
Wood products.....	355	44	78,304	311	45	87,466	2,040	18	100,636
Paper products.....	7	436	1,589,142	6	426	1,694,166	12	536	6,787,667
Non-ferrous metal products.....	—	—	—	1	—	—	46	96	523,587
Non-metallic mineral products.....	—	—	—	1	—	—	—	—	—
Chemical and allied products.....	5	12	74,800	8	—	—	11	130	2,378,818
All other groups.....	17	231	560,471	n.a.	n.a.	n.a.	—	—	—
Total primary.....	618	54	99,432	563	46	105,614	2,369	25	167,683

Secondary									
Foods and beverages.....	258	9	37,368	385	10	30,675	397	15	112,499
Tobacco and products.....	8	6	12,250	6	2	897	—	—	—
Rubber products.....	—	—	—	2	—	—	3	15	108,667
Leather products.....	11	22	30,273	17	21	26,588	21	23	75,524
Textiles.....	10	21	38,600	17	22	47,941	35	19	76,686
Knitting mills.....	6	28	48,500	5	24	39,600	—	—	—
Clothing.....	25	18	25,720	43	15	19,558	80	21	69,825
Wood products.....	53	21	46,245	110	19	35,282	274	12	51,336
Paper products.....	9	14	41,778	21	27	81,286	31	52	329,968
Printing, publishing and allied industries.....	123	14	41,472	201	13	29,851	396	12	66,116
Iron and steel products, Transportation equipment.....	76	24	58,053	110	19	55,527	284	26	177,158
Non-ferrous metal products.....	44	28	55,273	59	28	68,430	119	36	213,504
Electrical apparatus and supplies.....	17	7	17,471	19	8	17,684	—	—	—
Non-metallic mineral products.....	5	9	14,200	9	8	17,556	36	18	113,806
Products of petroleum and coal.....	39	15	29,718	50	12	21,040	81	18	113,444
Chemical and allied products.....	10	84	122,600	8	79	309,375	8	14	1,110,625
Miscellaneous manufacturing industries.....	26	14	68,263	42	15	63,714	79	13	116,608
Total secondary.....	23	10	23,609	36	14	33,944	104	10	57,894
	743	16	42,040	1,140	15	38,397	1,948	18	112,138
Total manufacturing.....	1,361	33	68,101	1,703	25	60,619	4,317	22	142,619

SOURCES: D.B.S. bulletins — *Estimates of Forest Production, 1945; Final Estimates of Forest Production, 1953; Fisheries Statistics of Canada, 1926, 1939, 1946 and 1953; Handbook of Agricultural Statistics, Part II, 1952; Farm Net Income, 1954; Central Electric Stations, 1926, 1939, 1946 and 1953; The Construction Industry in Canada, 1950; Construction in Canada, 1953-55; The Primary Iron and Steel Industry, 1926, 1939, 1946 and 1953.*  
D.B.S. schedules on mining and manufacturing.

## Appendix C

**GROSS VALUE OF PRODUCTION, 1926 AND 1953**  
(percentage of regional total represented by different sectors)

	Forest products		Mining and processing		Fisheries products		Agricultural products		Secondary manu-facturing		Other primary		Electric power	
	1926	1953	1926	1953	1926	1953	1926	1953	1926	1953	1926	1953	1926	1953
Maritimes.....	18.8	23.7	13.2	11.2	10.4	11.4	26.4	20.2	29.7	29.8	0.2	0.7	1.3	3.0
Quebec.....	18.3	14.8	2.4	9.2	0.3	0.2	21.4	14.8	54.6	57.4	0.6	1.3	2.3	2.3
Ontario.....	9.3	6.4	3.6	6.4	0.2	—	29.6	17.0	54.2	67.0	1.1	1.1	1.9	1.8
Prairie Provinces.....	1.8	3.4	3.2	9.0	0.4	0.2	79.9	61.0	13.4	24.5	—	—	1.2	1.9
British Columbia.....	33.3	39.7	19.2	11.8	13.7	6.8	12.2	13.5	19.4	23.6	—	2.1	2.2	2.4

SOURCES: D.B.S. bulletins — *Estimates of Forest Production, 1945; Final Estimates of Forest Production, 1953; Fisheries Statistics of Canada, 1926, 1939, 1946 and 1953; Handbook of Agricultural Statistics, Part II, 1952; Farm Net Income, 1954; Central Electric Stations, 1926, 1939, 1946 and 1953; The Construction Industry in Canada, 1950; Construction in Canada, 1953-55; The Primary Iron and Steel Industry, 1926, 1939, 1946 and 1953.*  
D.B.S. schedules on mining and manufacturing.

## **THE DISPARITY IN EARNED INCOME PER CAPITA BETWEEN THE ATLANTIC PROVINCES AND ONTARIO**

THIS is an attempt to analyze quantitatively some aspects of the relative disparity in earned income that exists between the Atlantic Provinces and Ontario. The main purpose is to provide a perspective for a deeper and more detailed but essentially non-quantitative analysis of the causes of the persistent income disparity.

The aspects which have been chosen are, in particular, associated with the differences in levels of earned income between regions. This paper is not directly concerned, of course, with reasons for differences in income between individuals or in the level of income provided by different industries or occupations. The number of aspects it is possible to consider is narrowed further by the lack of sufficient data and the method used for this analysis. The actual choice can be understood best through the assumptions on which it is based.

The first assumption is that the annual total of earned income, which determines the level of per capita earned income, can be considered as a function of the following factors: the proportional size of the labour force; the annual amount of working time; and the rate of remuneration received by the workers (both paid and self-employed and receiving income both in cash and in kind).<sup>1</sup> Secondly, if these factors are the same in each of two given regions then their product, total earned income, will be in the same relation to the total population of each region. Further, if there is a difference in one factor between the two regions there will be a proportionate difference in the product.

The particular aspects chosen for this analysis are the differences in the factors as they existed between the Atlantic Provinces and Ontario in 1951. This choice was dictated by the need for detailed information available only for those years in which a census had been taken. For the remainder of this paper these "aspects" will be referred to as factor differences. It is necessary now to define these factor differences in more detail.

First, the difference in the proportional size of the labour force of each region is easily measured by comparing the total labour force of each region expressed as a percentage of the total population of that region. This

<sup>1</sup> This, of course, is a truism: the number of workers in a region times the average weekly earnings per worker times the number of weeks worked per worker in a given year equals the total earned income of that year for the region. The assumption lies in treating these as the sole factors where, in fact, they can more properly be considered intermediate products which are the functions of many factors — climate, mineral resources, customs, historical accidents, geographic location, politics, producer capital etc.

comparison is made in Table D-I, and the results show that in Ontario, as of June 1, 1951, 41% of the total population was in the labour force as against 33% in the Atlantic Provinces. The labour force in Ontario was proportionally 25% larger. It is necessary to go a little deeper into the nature of the difference, however, before it can be said that the labour force in Ontario represented proportionally 25% more earning power.

Analysis of the census data showed that slightly over half the difference was due to the fact that in the Atlantic Provinces the number of young people below working age or at school was proportionately greater than the number in Ontario. The remaining difference could be ascribed to other causes which lowered the participation rate, particularly of women but of men as well, in those age-groups from which the labour force normally comes. It should be mentioned here that there was no marked difference of age distribution among those actually in the labour force in either region. There was a difference though, in the sex composition of the labour forces. This is important since women on the average earn less than men, partly because they are paid less for the same type of work and partly, to a larger extent, because they do not fill a proportional number of the highly paid positions. It is necessary, in order to make a proper allowance for the difference in sex composition of the labour forces, to be able to establish, if possible, the relative earning capacity of the average female worker as compared with that of the average male worker. Fortunately, it was relatively easy to obtain a rough measure of this from the earnings of paid workers as assessed by the Census and classified by sex and occupation (vol. V); and for both the paid and the self-employed workers covered in the Dominion Bureau of Statistics surveys, *Non-Farm Income Distribution*, 1951 and 1954. On the average, men earn twice as much per annum as women in both regions and in most industries. On the basis of this, it is assumed that *two women were equivalent to one man* in earning power. On this assumption it is possible to express the labour force in each region in terms of male earning units and to obtain a measure of the difference in the proportional size of the labour force in terms of these male units. On this basis the factor difference between the two regions in the size of the labour force amounted to 21% of the actual labour force (in male units) in the Atlantic Provinces.

The next factor difference was in the amount of time the labour force worked in a year. It should be explained here that the concern over this factor difference began with the observation that in the Atlantic Provinces the rate of unemployment has been consistently higher than in Ontario. From the 1951 Census (vol. V) it is possible to obtain an estimate of the average weeks worked by paid workers classified by industry and likewise the difference in the number of weeks worked per annum between the paid worker in the Atlantic Region and his counterpart in Ontario. This difference arises partly through a difference in outright unemployment rates (out of work and seeking work), partly through a difference in the amount of

lay-off time (with a job but not at work) and lastly through a difference in the amount of seasonal withdrawal from the labour force. There was no appreciable difference in time lost through strikes and lockouts. On the average, the paid worker spent over three more weeks at work in 1951 in Ontario than in the Atlantic Provinces. There is no similar information on self-employed workers, owing for the most part to the difficulties of measuring the working time of such people as farmers and doctors or even of determining when they are employed.

The third factor in the function is the rate of earnings. The rate for an entire region can be considered as the average of all the various rates of workers by type of industry or occupation *weighted* by the numbers employed in each. It might well happen that the average rate might differ between two regions only because the employment *weighting* of industries and occupations differed sufficiently between them. The third factor in the function can in effect be treated as two factors: the proportional distribution of the labour force by industries and occupations and the rate of earnings (by industry and occupation).

The third factor difference then, which will be treated as a distinct aspect of the disparity in the levels of earned income between the Atlantic Provinces and Ontario, is in the *employment weighting pattern* of industries and occupations. For simplification it can be referred to as the difference in industry "mix".

The final factor difference is in the rate of earnings (apart from the difference due to industry "mix"). In all, four factors are considered as producing the total earned income accruing to a region. The procedure now is to find out what the effects on the level of earned income in the Atlantic Provinces are when Ontario factors are substituted in the equation for the Atlantic Provinces (one at a time, and in all possible combinations).

Table D-VI provides the distribution and annual rates of earnings of the labour force in both regions by industry classification. The first two columns of rates and percentage distributions are the actual figures for the year 1951. The regional average for Ontario and the A average for the Atlantic Provinces are also the actual respective averages of income as calculated on a male worker unit basis (see also Tables D-III and D-IV). The fifth column shows the annual rates for the Atlantic Provinces as calculated on the actual weekly rates of paid workers' earnings but on the Ontario number of weeks worked per annum by paid workers. The annual earnings of the self-employed are not changed. Figure B is the average of these annual rates standardized for weeks worked by paid workers and weighted by the actual labour force distribution in the Atlantic Provinces. Figure C is the average of the actual rates by industry weighted by the Ontario labour force distribution. Figure D is the average of the rates standardized for weeks worked by paid workers and weighted by the Ontario labour force distribu-

tion. Figure E is the average of the Ontario rates weighted by the labour force distribution of the Atlantic Provinces. The average of the Ontario rates on the basis of weeks worked per annum by paid workers of the Atlantic Provinces, figure F is calculated by taking the rate of increase of E over B times A. Figure G is the average of the Ontario rates using Ontario weights or, in effect, the same average as in Ontario. The average H is calculated by taking the rate of increase of G over D times C.

The standardization of the first factor, the relative size of the labour force, would not change the average annual earned income per worker, of course, but it would change the aggregate earned income and thereby the average earned income per capita. Table D-VII shows aggregates rather than averages of earned income. The first eight are arrived at simply by multiplying the eight averages from Table D-VI (A . . . H) by the actual labour force in the Atlantic Provinces expressed in male units (see Table D-IV). Then eight more are derived in the same way except that the standardized labour force figure is used. In all there are 16 aggregates which represent all the possible combinations of the four factors.<sup>2</sup> They are lettered appropriately — w for *standardized for weeks worked by paid workers*, s for *standardized size* of the labour force, etc.

The difference between the actual total of earned income and the figure obtained when all four factors are standardized (smrw) represents the total difference between the actual level of income in the Atlantic Provinces and the level that would provide the same per capita level as in Ontario. The differences between the actual total and the figures derived from standardizing represent the various proportions of the total difference that can be ascribed to the factor differences eliminated in each instance of standardization. These differences are worked out in detail in Table D-VIII. To each factor difference taken alone there is ascribed a portion of the total difference, but the sum of the results of eliminating these factor differences separately is less than the total difference. The gap is made up by the additional effects that are obtained when the factor differences are eliminated simultaneously. That is, the combined effect of the two factors working together is usually more or less than the sum of their separate effects. This interaction cannot properly be ascribed wholly or in part to one factor because if either one is not functioning there is no interaction.

It is probably necessary to explain this matter of interaction further. In Table D-VIII it can be seen that the interaction (s'r') of the size of the labour force and the rates of earning is \$85 million. The increase in the rate of earnings alone increased the total of earned income by 43% or \$400 million, and the increase in the size of the labour force increased the total by 21% or \$197 million. In addition, the increase in the rate of earnings times the increase in size of the labour force increased the total a further

<sup>2</sup> This indicates how complicated the real situation is. The addition of another factor in this analysis would have resulted in 32 totals. A 10-factor analysis would have involved 1,024 combinations.

9% (43 x 21 approximately) or \$85 million.<sup>3</sup> The interaction that takes place when both the industry "mix" and the rates of earning are standardized is negative. This is because the shift in employment weights caused by standardizing for "mix" is away from those industries which have the lowest level of income in relation to that of Ontario and toward those industries which measure up better in this respect. This, in effect, diminishes the importance of the disparity in rates of earnings, and consequently the effect of standardizing for "mix" and rates of earning simultaneously is less than the sum of their effects measured separately.

The relative significance of each factor difference can be expressed in two different ways, which provide two somewhat different answers. The first way is to measure the effect of removing one factor difference at a time (see also Table D-IX):

*Percentage of the earned income differential removed  
by removing factor differences one at a time*

Relative size of the labour force.....	23%
Weeks/year worked by paid workers.....	7%
Industry mix.....	12%
Rates of earning.....	46%
Total.....	88%

The other method is to remove all but one factor difference at a time:

*Percentage of the earned income differential remaining when one  
factor difference is left unstandardized*

Factor differences removed except difference in:

Labour force size.....	36%
Weeks worked by paid workers.....	13%
Industry mix.....	11%
Rates of earning.....	52%

The results are different, of course, because in the first case interaction does not enter the picture, while in the second it does. It is possible to check these results in another common sense way. If the labour force in the Atlantic Provinces were increased 21% to the same relative size in relation to the population as in Ontario and if all other relationships remained the same, it would follow that there would be a similar increase of 21% in total earned income. This would diminish the disparity of earned income by about 23%. Now if the other situation is considered in which, to begin with, all factors are the same as in Ontario and the labour force size factor difference is then reintroduced, this is the same as reducing the labour force by 18%. If this were to come about without a change in the rates of pay, the weeks of work, or the industry mix, it would in effect mean a reduction of the order of 18% in the level of earned income (from the Ontario level). This, expressed in terms of the actual difference, would amount to 36%, and the level in the Atlantic Provinces would be 82% that of Ontario.

<sup>3</sup> 85 is 9% of the actual level of 923, or 10% of the total differential 865.

*The level of income in the Atlantic Provinces  
as a percentage of the Ontario level*

Factors	Standardized for one factor only	Standardized for all factors except one
Size of labour force.....	66 (a)	82 (b)
Weeks/year worked by paid workers.....	58	94
Industry mix.....	61	95
Rates of earning.....	78	75
Actual level.....	52	52

(a) Standardized size of labour force only.

(b) Standardized for all factors except for the size of the labour force.

*Effect of the relative size of the labour force  
on the level of income*

Percentage of earned income difference:

	Remaining when factor difference is removed	Removed when factor difference is removed
Factor difference in size of labour force:		
1. Due to age distribution of total population.....	24%	15%
2. Due to other factors.....	13%	8%
Total difference.....	36%	23%

If the discrepancies in the apparent effects of the factor differences taken separately or taken in conjunction with the other factor differences are split, the result is a simplified summary of this paper. This is justifiable in that these discrepancies are due to interaction among the factor differences and can just as well be split evenly among them. The following table is the result:

*The disparity in per capita earned income between  
Ontario and the Atlantic Provinces, 1951*

Total disparity.....	100%
The proportion ascribed to factor differences in:	
1. The relative size of the labour force.....	29 (a)
1. Due to the age distribution of the population.....	19
2. Due to the lower participation of the working age population.....	10
2. Weeks worked per annum by paid workers.....	10
3. Industry mix.....	12
4. The workers rates of earnings.....	49

(a) i.e. 29% is roughly half-way between 23% and 36%.

Table D-I

**RELATIVE DIFFERENCE IN SIZE OF LABOUR FORCE (a) IN THE  
ATLANTIC PROVINCES AS COMPARED WITH ONTARIO,  
JUNE 1, 1951**

**A. Total population participation rates**

	Atlantic Provinces	Ontario
Total population in thousands.....	1,618	4,598
Population 14 years and over: in thousands.....	1,079	3,418
in percentage of total population....	66.69%	74.34%
Labour force in thousands: male.....	433	1,442
female.....	100	446
total.....	533	1,888
Participation rates in percentage of:		
total population.....	32.94%	41.06%
population 14 years and over.....	49.40%	55.24%

**B. Analysis of difference in total population participation rates**

	Thousands	Percentage
Total difference.....	131	100
According to cause (b):		
1. Difference in age distribution: male.....	59	45
female.....	9	7
	68	
2. Other: male.....	13	10
female.....	43	33
	56	
3. Interaction of 1 and 2: male.....	2	2
female.....	5	4
	7	
According to sex: male.....	74	56
female.....	57	44
	131	

NOTE: Total labour force in the Atlantic Provinces at the Ontario total population participation rate would be 664,000, or an increase of (664,000 — 533,000) 131,000 or 24.6%.

(a) The labour force as derived from the Census differs somewhat in size and composition from the labour force estimate for June 1951, which was made on the basis of a regular survey by D.B.S. The main differences are that the census figures used include military personnel while these are excluded from the D.B.S. and Department of Labour estimates; and the survey shows a larger number of women in the agricultural labour force in Ontario. For the purposes of this analysis the census figure is more suitable, since military personnel are a significant portion of the earning population in the Atlantic Provinces, and since the additional number of women in the Ontario agricultural labour force represents "no pay" family help — chiefly farmers' wives and daughters. Their inclusion in Ontario to a greater extent than in the Atlantic Provinces appears to be a peculiarity of the sampling technique used in the labour force survey and does not reflect real differences in female employment in agriculture between the two regions.

(b) In order to determine the effect of age distribution alone, the participation rates by age-groups of the population in the Atlantic Provinces were weighted by the distribution of the Ontario population by age groups to obtain an average participation rate for the whole population (i.e. standardized to the Ontario population age distribution). The difference between this rate and the actual rate in terms of numbers of workers was 68,000.

Table D-II

# PERSONAL INCOME IN ONTARIO AND THE ATLANTIC PROVINCES, 1951

<i>A. Total personal income and its components (in millions) (a)</i>				
	Atlantic Provinces		Ontario	
	\$	%	\$	%
Total (excludes personal bad debts).....	1,145	100.0	6,083	100.0
Earned				
Wages and salaries and supplementary labour income (b).....	(718)	62.7	4,072	67.0
Self-employed.....	(221)	19.3	1,110	18.2
Total.....	939	82.0	5,182	85.2
Investment income.....	84	7.3	592	9.7
Government transfer payments.....	122	10.7	309	5.1
<i>B. Earned personal income with agricultural income adjusted for analysis (in millions)</i>				
	Atlantic Provinces		Ontario	
Total earned agricultural income.....	99		587	
Adjustment (c).....	-16		-100	
Adjusted earned agricultural income.....	83		487	
Other earned income.....	840		4,595	
Total adjusted earned income.....	923		5,082	
Other personal income.....	206		901	
Total adjusted personal income.....	1,129		5,983	

(a) From *National Accounts, Income and Expenditure, 1950-55*.

(b) Includes military pay and allowances and adjustments for contributions to unemployment insurance and non-government transfer payments, etc.

(c) In 1951 the level of agricultural income was at an all-time high. The adjustment reduces the level so that earned income per worker in agriculture is at the average level for the 5-year period 1949-53 (inclusive).

Table D-III

# THE PER CAPITA PERSONAL INCOME DIFFERENCE BETWEEN ONTARIO AND THE ATLANTIC PROVINCES, 1951

<i>A. Total personal income per capita (in dollars) (a)</i>			
	Atlantic Provinces	Ontario	Differential
Total population June 1, 1951.....	1,618,000	4,598,000	—
Per capita personal income			
Total (adjusted).....	697	1,301	604
Earned (adjusted).....	570	1,105	535
Investment.....	52	129	77
Government transfer payments.....	75	67	-8

**B. Total earned income per member of the labour force**

	Atlantic Provinces	Ontario	Differential
Labour force (1951 Census).....	533,000	1,888,000	—
Agricultural labour force.....	67,000	202,000	—
Earned income per member of the labour force..	\$1,732	\$2,692	\$ 960
Earned income per member of the agricultural labour force.....	\$1,239	\$2,411	\$1,172

(a) Adjusted earned income (see Table D-II, Part B).

Table D-IV

**STANDARDIZATION OF THE LABOUR FORCE**

	Atlantic Provinces (thousands)	Ontario (thousands)
Total labour force (actual).....	533	1,888
Total labour force at the total population participation rate in Ontario (see Table 1).....	664	1,888
<b>Total labour force male equivalent earning units</b>		
Actual.....	483	1,666
At Ontario total population participation rate.....	586	1,666
<b>Earned income (adjusted) per male equivalent earning unit</b>		
Actual.....	\$1,911	\$3,501
<b>Total earned income at Ontario rates of earning per annum and total population participation rates</b>		
(3,051 x 586) in millions.....	\$1,788	\$5,082 (actual)
Per capita in dollars.....	\$1,105	\$1,105

Table D-VA

**ADJUSTMENT FACTORS FOR WEEKS WORKED  
BY PAID WORKERS IN THE ATLANTIC PROVINCES, 1951**

Industry classification (a)	Adjustment (percentage)
Agriculture, fishing and forestry.....	16.9 (b)
Mining, quarrying and oil wells.....	2.9
Manufacturing.....	12.9
Construction.....	23.0
Trade.....	2.3
Finance, insurance and real estate.....	-2.1
Transportation, storage and communication.....	7.9
Public utility operation.....	7.4
Service.....	1.4
Not stated.....	28.4

(a) Some experimentation was carried out with a more detailed classification, but the refinements did not seem to warrant the extra work and the complications involved. While there is a much finer classification in the Census, the accuracy is low in the primary industries in the Atlantic Provinces in particular. This is chiefly because the same individual often farms, fishes and works in the woods in the course of one year. Another problem that arises when the classification is too detailed is that some classes are unrepresented in either one or the other region (e.g. automobile manufacturing and fish-canning).

(b) i.e., workers in agriculture, fishing and forestry worked 16.9% more weeks in Ontario than in the Atlantic Provinces in 1951.

Table D-VB

**PERCENTAGE DISTRIBUTION OF MALE UNITS  
OF EMPLOYMENT BY INDUSTRY CLASSIFICATION  
IN MANUFACTURING, 1951**

	Ontario	Atlantic Provinces
Foods and beverages.....	8.8	23.4
Tobacco, rubber and leather.....	4.8	1.0
Textiles.....	4.4	3.2
Clothing.....	4.8	2.0
Wood.....	6.5	20.1
Paper.....	5.7	14.7
Printing and publishing.....	5.0	3.1
Iron and steel.....	21.5	12.0
Transportation equipment.....	15.3	14.4
Non-ferrous metals.....	4.5	.9
Electrical apparatus and supply.....	7.8	.4
Non-metallic minerals.....	3.1	2.3
Petroleum and coal.....	.9	.9
Chemical products.....	4.1	1.0
Miscellaneous.....	2.8	.6
Total manufacturing.....	100.0	100.0

Table D-VI

**STANDARDIZATION OF AVERAGE EARNED INCOME  
IN THE ATLANTIC PROVINCES, 1951 (a)**

Industry classification of employment	Ontario		Atlantic Provinces		
	Actual		Standard- ized (d)		
	\$ (b)	% L.F.(c)	\$	% L.F.	\$
Primary					
Agriculture, fishing and forestry.....	2,506	13.26	1,242	27.51	1,315
Mining, quarrying and oil wells.....	3,185	1.82	2,539	4.21	2,613
Secondary					
Manufacturing (e): Actual.....	3,152	33.17	2,090	16.63	2,338
Standardized (for mix).....	—	—	(2,257)	—	(2,548)
Construction.....	2,493	7.57	1,732	7.35	2,037
Tertiary industries					
Trade.....	3,082	13.57	2,148	12.34	2,185
Finance, insurance and real estate....	4,293	2.84	3,246	1.18	3,174
Transportation, storage and com- munication.....	3,066	7.10	2,178	9.32	2,342
Public utility operation.....	3,089	1.76	2,184	1.01	2,347
Services:					
Government.....	3,159	6.28	2,516	8.34	2,551
Community and recreation.....	3,100	5.08	2,020	5.19	2,048
Business and professional.....	4,583	2.13	4,689	.93	4,711
Personal.....	3,301	4.26	2,223	3.82	2,239

Others, not classified and those who have never worked but were seeking work	1,637	1.16	733	2.17	943
Average earnings, all industries.....		100.00		100.00	
Actual.....	3,051		(A)1,911		
Standardized:					(B)2,028
For industry mix.....			(C)2,131		(D)2,287
For earning rates.....			(F)2,739		(E)2,907
For both rates and mix.....			(H)2,843		(G)3,051

(a) Two principal sources were used in deriving the income statistics for this analysis — the *Census of Canada, 1951*, and the *National Accounts, Income and Expenditure*. The Census was used extensively for determining the relationships between occupational and industrial groups, the sexes and the percentage distribution of the labour force by industries. These relationships applied directly to the fiscal period ending June 1, 1951, but were assumed to apply as well to the 1951 calendar year. Information on the relative earnings of different classes of the self-employed and employer members of the labour force was obtained from the worksheets of the *National Accounts*. The Census contains no income information on this group. A further division could be made between the self-employed and the paid workers. This would have added little and made the analysis much more complicated. The self-employed make up the largest proportion of only two of the classifications — the agricultural, fishing and forestry classes and the business and professional services classes.

(b) Average annual earned incomes in dollars.

(c) Percentage distribution of the labour force expressed in male units.

(d) For weeks/year worked by paid workers.

(e) Subclassified into 15 classes for standardizing for mix and weeks worked (see Table D-VB).

Table D-VII

## GROSS EARNED INCOME FOR THE ATLANTIC PROVINCES STANDARDIZED TO ELIMINATE FACTOR DIFFERENCES WITH ONTARIO, 1951

(in millions of dollars)

	Actual	Standardized for weeks worked per year by paid workers
Actual.....	a 923(a)	—
Standardized:		w 980
For industry mix.....	m 1,029(b)	mw 1,105
For annual earning rates.....	r 1,323	rw 1,404
Both rates and mix.....	mr 1,373	mrw 1,474
For relative labour force size.....	s 1,120	sw 1,188
and mix.....	sm 1,249	smw 1,340
and rates.....	sr 1,605	srw 1,704
and both mix and rates.....	smr 1,666	smrw 1,788

(a) These totals are obtained by multiplying the labour force in male units by the various averages obtained from Table D-VI.

(b) That is, the Ontario employment weights have been used to derive an average rate of earnings from the rates of the Atlantic Provinces (by industry classification), and this average has been multiplied by the total labour force to obtain total earned income. The effect of giving the agriculture, fishing and forestry rate of earnings a weight of .1326 (out of 1,0000) instead of .2751, and the manufacturing rate (standardized for "mix") a weight of .3317 instead of .1663, etc., raised the average rate for all workers from \$1,911 to \$2,131, and the total for the region from \$923 million to \$1,029 million. This is a raise of about 11%.

Table D-VIII

RESULTS OF STANDARDIZATION TO  
ELIMINATE FACTOR DIFFERENCES*(all figures in millions of dollars)*

	Dollars	% of total
S. Labour force size (s-a) (a).....	197	22.8
W. Weeks/year worked by paid workers (w-a).....	57	6.6
M. Industry mix (m-a).....	106	12.3
R. Annual earning rates (r-a).....	400	46.2
Total separate effects s+w+m+r.....	760	87.9

Interaction of two factors at a time:

SW (sw-a).....	265		
s+w.....	254		
s'w' interaction (sw-a) - (s+w).....		11	1.3
SM (sm-a).....	326		
s+m.....	303		
s'm'.....		23	2.7
SR (sr-a).....	682		
s+r.....	597		
s'r'.....		85	9.8
MR (mr-a).....	450		
m+r.....	506		
m'r'.....		-56	-6.5
MW (mw-a).....	182		
m+w.....	163		
m'w'.....		19	2.2
WR (wr-a).....	481		
w+r.....	457		
w'r'.....		24	2.7

Interaction of three factors at a time:

SMW (smw-a).....	417		
s+m+w.....	360		
s'w'+s'm'+w'm'.....	52		
s'm'w'.....		4	.5
SMR (smr-a).....	743		
s+m+r.....	703		
s'm'+s'r'+m'r'.....	52		
		-12	-1.4
WMR (mrw-a).....	551		
w+m+r.....	563		
w'm'+w'r'+m'r'.....	-13		
w'm'r'.....		1	.1
SWR (srw-a).....	781		
s+w+r.....	654		
s'w'+s'r'+w'r'.....	120		
s'w'r'.....		7	.8

	Dollars	% of total
Interaction of all four factors together:		
SWMR (smrw-a).....	685	
s + w + m + r.....	760	
Interaction of two factors at a time.....	106	
Interaction of three factors at a time...	0	
s'w'm'r'.....	- 1	- .1
Total interaction.....	105	12.1
Actual gross earned income in Atlantic Provinces, 1951.....		923
Total effect of standardization for all four factors:		
Separate effects.....	760	
Interaction.....	105	
Total (smrw-a).....	—	865
Total earned income standardized for S, W, M and R (smrw)		1,788

(a) Figures in brackets refer to the gross figures from Table D-VII.

Table D-IX

### SUMMARY OF THE EFFECTS OF FACTOR DIFFERENCES ON THE DIFFERENCE IN EARNED INCOME BETWEEN ONTARIO AND THE ATLANTIC PROVINCES, 1951

Total difference in level of earned income per capita.....	\$537	
Separate and direct influence of factor differences:		% of total differential in earned income
	\$	
S. Relative size of the labour force		
1. Due to total population age distribution.....	76	14.1
2. Due to other factors lowering participation rate.....	40	7.5
3. Due to interaction of 1 and 2 above.....	6	1.2
	122	22.8
W. Weeks/year worked by paid workers.....	36	6.6
M. Industry mix.....	66	12.3
R. Rates of earning.....	248	46.2
	472	87.9
Interaction of the factor differences:		
s'w'.....	7	1.3
s'm'.....	14	2.7
s'r'.....	53	9.8
m'r'.....	-35	-6.5
m'w'.....	12	2.2
w'r'.....	14	2.7
All other interaction.....	0	0.0
	65	12.1
	537	100.0

Table D-X

# ANALYSIS OF PER CAPITA INCOME (a) DIFFERENCE BETWEEN THE ATLANTIC PROVINCES AND ONTARIO, 1951

Income component	Percentage of difference (b) accounted for by difference in component level	Factor differences related to income differences				Interaction of factor differences						Total inter-action	Unexplained
		S Size of labour force	W Weeks/year worked by paid workers	M Industry mix	R Rates of earnings	s'w'	s'm'	s'r'	m'r'	m'w'	w'r'		
Earned income	88.6	20.2	5.8	10.9	40.9	1.2	2.4	8.7	-5.8	1.9	2.5	10.8	—
Investment income	12.7	—	—	—	—	—	—	—	—	—	—	—	12.7
Government transfer payments	-1.3	-1.3 (c)	—	—	—	—	—	—	—	—	—	—	—
Total	100.0	18.9	5.8	10.9	40.9	—	—	—	—	—	—	10.8	12.7

(a) Total personal income.

(b) i.e. the total difference in per capita personal income.

(c) Standardization of the labour force would imply the same population age-distribution characteristics, removing the principal reason for the difference in the per capita level of government transfer payments which was in favour of the Atlantic Provinces in 1951. Since that time the extension of the rates and coverage of old-age pensions has favoured Ontario, which has relatively more people over 65. It takes the family allowance of from six to eight children to equal \$40.

Table D-XI

### RATES OF EARNINGS IN ONTARIO AS COMPARED WITH THE ATLANTIC PROVINCES (a)

	Atlantic Provinces (a) rates when Ontario = 100	Ontario rates when Atlantic Provinces (a) = 100
Primary industries.....	57	174
Agriculture, fishing and forestry.....	52	191
Mining, quarrying and oil wells.....	82	122
Secondary industries.....	79	127
Manufacturing.....	81	124
Construction.....	82	122
Tertiary industries.....	72	138
Trade.....	71	141
Finance, insurance and real estate.....	74	135
Transportation, communication and storage	76	131
Public utility operation.....	76	132
Services.....	73	137
Government.....	81	124
Community and recreation.....	66	151
Business and own account professional	103	97
Personal (including board and lodging)	68	147
Other persons not classified, including those who have never worked and were seeking work..	58	174
All industries:		
Ontario mix (of industry).....	75	133
Atlantic Provinces mix.....	71	141
All industries except agriculture, fishing and forestry:		
Ontario mix.....	78	129
Atlantic Provinces mix.....	75	133

(a) The rates are annual rates standardized for weeks worked by paid workers. The relative rates for those classifications in which the workers are chiefly employees (paid workers) are, as they are expressed here, the same as relatives of weekly rates of earnings.

Table D-XII

### STANDARDIZATION OF AVERAGE EARNED INCOME PER WORKER (EXCLUDING AGRICULTURAL, FISHING AND FORESTRY WORKERS)

	Ontario	Atlantic Provinces	
	Actual	Unstandardized for weeks worked by paid workers	Standardized for weeks worked by paid workers
	\$	\$	\$
Actual.....	3,133	2,165	2,299
Standardized:			
For industry mix.....	—	2,267	2,435
For rates of earning....	—	2,882	3,060
Both.....	—	2,917	3,133

Table D-XIII

### THE DIFFERENCE IN THE RELATIVE SIZE OF THE LABOUR FORCE BETWEEN THE MARITIMES AND ONTARIO

	In thousands (a)	In per cent of the actual labour force
<i>The Census</i>		
1901.....	8	3
1911.....	43	13
1921.....	33	10
1931.....	43	13
1941.....	55	13
1951.....	93	22
<i>The Labour Force Survey (b)</i>		
1945 — November 17.....	72	19
1946 — June 1.....	71	17
1947 — May 31.....	80	19
1948 — June 5.....	90	21
1949 — June 4.....	83	19
1950 — June 3.....	82	19
1951 — June 2.....	98	24
1952 — May 31.....	106	26
1953 — May 16.....	110	27
1954 — May 22.....	117	29
1955 — May 21.....	113	27
1956 — May 19.....	115	27

(a) These numbers are the differences between the actual labour force on the given dates and the size it would have been if the total population participation rate was the same as in Ontario.

(b) For this survey military personnel are excluded; this tends to make the difference larger, since their removal has more of an effect in the Atlantic Provinces than in Ontario.

Table D-XIV

### THE DIFFERENCE IN THE RELATIVE SIZE OF THE LABOUR FORCE BETWEEN THE ATLANTIC PROVINCES AND ONTARIO (a)

#### *The Participation Rates:*

	Of the total population			Of the population 14 and over		
	Ont. %	A.P. %	Diff. %	Ont. %	A.P. %	Diff. %
1950.....	41.0	33.9	7.1	55.8	50.9	4.9
1951.....	40.7	31.6	9.1	56.1	49.0	7.1
1952.....	40.1	31.1	9.0	55.7	48.3	7.4
1953.....	40.0	30.5	9.5	55.3	47.5	7.8
1954.....	39.4	29.3	10.1	55.9	46.1	9.8
1955.....	38.9	29.3	9.6	55.5	46.4	9.1
1956.....	39.0	29.7	9.3	56.1	46.8	9.3

*The relative difference in participation:*

	Atlantic Provinces			
	Of the total population		Of the population 14 and over	
	Thousands of workers (b)	Per cent actual labour force	Thousands of workers	Per cent actual labour force
1950.....	114	21.1	53	9.7
1951.....	146	28.5	74	14.4
1952.....	148	28.8	78	15.2
1953.....	154	29.9	84	16.3
1954.....	174	34.4	108	21.3
1955.....	169	32.8	101	19.6
1956.....	168	31.6	107	20.0

(a) The data covering the labour force and the population 14 years of age and over were obtained from the *Labour Force Survey* nearest to June 1 of each year. The total population figures are from the *Canadian Statistical Review*.

(b) i.e. the difference between the actual labour force and the labour force as calculated from the Ontario participation rates and the population figures of the Atlantic Provinces.

Table D-XV

**INDUSTRY "MIX", ONTARIO AND THE MARITIMES**  
*(the percentage distribution by occupation)*

Occupation	1921		1931		1941		1951	
	Ont.	Mar.	Ont.	Mar.	Ont.	Mar.	Ont.	Mar.
Primary industries.....	33	51	30	48	27	48	16	33
Manufacturing and construction.....	23	14	24	14	29	17	33	21
Transportation, trade and finance.....	18	14	20	15	19	17	21	20
Service, professional and personal.....	7	5	9	6	10	6	14	12
Clerical work.....	6	3	5	3	6	3	7	4
Labouring (except primary)....	13	13	13	15	8	9	8	9

## Appendix E

Table E-I

## NUMBERS OF IMMIGRATING FAMILIES: BY PROVINCE OF ARRIVAL, 1947 TO 1955

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province of arrival					Yukon and		
						Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Total	
1947	—	279	1,075	1,149	2,991	7,232	2,319	2,402	3,398	7,995	197	29,037	
1948	—	241	1,214	1,081	3,344	7,440	2,501	2,653	3,664	6,672	238	29,048	
1949	298	394	1,646	1,164	3,462	7,667	2,789	2,792	4,541	5,360	327	30,440	
1950	406	368	1,761	1,216	3,810	9,015	2,663	2,964	4,524	4,493	337	31,557	
1951	463	451	2,091	1,527	4,542	11,584	3,302	2,854	4,721	5,854	340	37,729	
1952	529	473	2,515	1,719	4,698	10,403	3,404	3,547	5,446	6,473	442	39,649	
1953	486	444	2,356	1,780	4,833	11,571	3,324	3,874	5,736	6,068	444	40,916	
1954	579	489	2,700	2,013	5,279	11,345	3,799	3,655	5,334	6,025	475	41,693	
1955	629	465	2,993	2,261	5,479	11,704	3,627	3,152	5,58	6,956	434	43,284	
9-year total	3,390	3,604	18,351	13,910	38,438	87,961	27,728	27,893	42,948	55,896	3,234	323,353	

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-II

## NUMBERS OF EMIGRATING FAMILIES: BY PROVINCE OF ORIGIN, 1947 TO 1955

Year	Natd.	P.E.I.	N.S.	N.B.	Province of origin					B.C.	Yukon and N.W.T.	Total
					Que.	Ont.	Man.	Sask.	Alta.			
1947	—	350	2,162	1,199	3,432	5,553	3,996	5,113	4,135	2,966	131	29,037
1948	—	333	2,065	1,288	3,571	6,062	3,487	4,985	3,510	3,600	147	29,048
1949	—	394	2,089	1,544	3,637	6,391	3,237	4,867	3,392	4,229	230	30,440
1950	660	429	2,346	2,189	3,968	6,340	3,214	3,877	3,789	4,422	323	31,557
1951	753	606	2,940	2,605	4,954	7,812	3,969	4,780	4,631	4,331	348	37,729
1952	535	609	2,754	2,153	5,292	9,506	3,984	4,615	5,045	4,752	404	39,649
1953	563	664	3,127	2,376	5,945	9,481	4,071	4,149	4,920	5,103	517	40,916
1954	578	686	3,312	2,354	5,434	10,174	4,058	4,222	5,530	4,921	424	41,693
1955	604	567	3,262	2,528	6,075	10,210	4,416	5,170	5,863	4,126	463	43,284
9-year total	3,693	4,638	24,057	18,236	42,308	71,529	34,432	41,778	40,815	38,450	2,987	323,353

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-III

## NET GAIN OR LOSS (—) OF FAMILIES THROUGH MIGRATION: BY PROVINCE, 1947 TO 1955

Year	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province					Yukon and N.W.T.	Net change
						Ont.	Man.	Sask.	Alta.	B.C.		
1947	—	-71	-1,087	-50	-441	1,679	-1,677	-2,711	-737	5,029	66	—
1948	—	-92	-851	-207	-227	1,378	-986	-2,332	154	3,072	91	—
1949	-132	—	-443	-380	-175	1,276	-448	-2,075	1,149	1,131	97	—
1950	-254	-61	-585	-973	-158	2,675	-551	-913	735	71	14	—
1951	-290	-155	-849	-1,078	-412	3,772	-667	-1,926	90	1,523	-8	—
1952	-6	-136	-239	-434	-594	897	-580	-1,068	401	1,721	38	—
1953	-77	-220	-771	-596	-1,112	2,090	-747	-275	816	965	-73	—
1954	1	-197	-612	-341	-155	1,171	-259	-567	-196	1,104	51	—
1955	25	-102	-269	-267	-596	1,494	-789	-2,018	-279	2,830	-29	—
9-year total	-733	-1,034	-5,706	-4,326	-3,870	16,432	-6,704	-13,885	2,133	17,446	247	—

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-IV

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1947

Province of arrival	Province of origin										Yukon and N.W.T. arrivals	Total
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.	—	—	—	—	—	—	—	—	—	—	—	—
P.E.I.	—	—	127	64	36	35	3	1	5	8	0	279
N.S.	—	128	—	287	142	353	23	29	34	78	1	1,075
N.B.	—	88	468	—	281	229	19	13	20	31	—	1,149
Que.	—	37	253	310	—	2,095	100	48	58	87	3	2,991
Ont.	—	70	1,038	413	2,501	—	1,265	784	504	642	15	7,232
Man.	—	3	38	26	101	805	—	728	272	341	5	2,319
Sask.	—	2	34	22	44	498	688	—	571	539	4	2,402
Alta.	—	8	66	16	99	466	456	1,047	—	1,189	51	3,398
B.C.	—	13	137	57	218	1,049	1,426	2,449	2,594	—	52	7,995
Yukon and N.W.T.	—	1	1	4	10	23	16	14	77	51	—	197
Total emigrants....	—	350	2,162	1,199	3,432	5,553	3,996	5,113	4,135	2,966	131	29,037

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-V

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1948

Province of arrival	Province of origin										Yukon and N.W.T. arrivals	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.	—	—	—	—	—	—	—	—	—	—	—	—
P.E.I.	—	—	104	52	25	53	1	1	—	5	—	241
N.S.	—	107	—	292	168	479	26	19	36	84	3	1,214
N.B.	—	82	386	—	285	227	22	22	24	31	2	1,081
Que.	—	27	235	395	—	2,333	100	55	65	129	5	3,344
Ont.	—	97	1,107	445	2,685	—	1,175	789	439	684	19	7,440
Man.	—	3	36	17	87	893	—	789	241	426	9	2,501
Sask.	—	3	30	11	51	548	617	—	541	846	6	2,653
Alta.	—	5	60	20	107	511	406	1,176	—	1,325	54	3,664
B.C.	—	9	105	54	160	981	1,126	2,123	2,065	—	49	6,672
Yukon and N.W.T.	—	—	2	2	3	37	14	11	99	70	—	238
Total emigrants..	—	333	2,065	1,288	3,571	6,062	3,487	4,985	3,510	3,600	147	29,048

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-VI

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1949

Province of arrival	Province of origin										Yukon and N.W.T.	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.....	—	7	92	18	37	120	4	5	6	9	—	298
P.E.I.....	4	—	118	64	29	98	26	9	29	17	—	394
N.S.....	100	125	—	344	209	610	32	40	28	155	3	1,646
N.B.....	17	84	389	—	321	283	11	14	19	23	3	1,164
Que.....	42	42	228	415	—	2,300	161	66	67	126	15	3,462
Ont.....	246	107	992	604	2,636	—	1,069	674	475	816	48	7,667
Man.....	4	9	42	13	103	978	—	876	257	485	22	2,789
Sask.....	1	2	25	15	46	547	629	—	645	873	9	2,792
Alta.....	3	10	67	29	111	550	415	1,636	—	1,652	68	4,541
B.C.....	13	8	133	37	138	855	865	1,513	1,736	—	62	5,360
Yukon and N.W.T....	—	—	3	5	7	50	25	34	130	73	—	327
Total emigrants....	430	394	2,089	1,544	3,637	6,391	3,237	4,867	3,392	4,229	230	30,440

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-VII

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1950

Province of arrival	Province of origin										Yukon and N.W.T.	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.....	—	14	134	44	53	130	7	5	4	15	—	406
P.E.I.....	6	—	138	90	35	77	2	1	15	4	—	368
N.S.....	163	127	—	406	198	599	32	28	45	158	5	1,761
N.B.....	32	76	415	—	309	291	20	8	23	42	—	1,216
Que.....	57	40	252	525	—	2,473	164	52	89	150	8	3,810
Ont.....	371	129	1,121	987	2,957	—	1,252	611	661	828	98	9,015
Man.....	7	10	48	25	100	917	—	780	288	471	17	2,663
Sask.....	4	6	25	14	50	457	651	—	837	903	17	2,964
Alta.....	12	20	66	59	120	637	457	1,298	—	1,751	104	4,524
B.C.....	8	7	140	36	140	692	609	1,066	1,721	—	74	4,493
Yukon and N.W.T.....	—	—	7	3	6	67	20	28	106	100	—	337
Total emigrants.....	660	429	2,346	2,189	3,968	6,340	3,214	3,877	3,789	4,422	323	31,557

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-VIII

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1951

Province of arrival	Province of origin										Yukon and N.W.T.	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.	—	4	122	38	62	193	12	4	18	10	—	463
P.E.I.	10	—	121	95	43	138	8	3	15	18	—	451
N.S.	160	131	—	451	224	818	53	29	41	179	5	2,091
N.B.	37	100	430	—	390	477	22	12	22	36	1	1,527
Que.	81	52	300	573	—	2,900	194	63	170	197	12	4,542
Ont.	423	261	1,604	1,305	3,719	—	1,530	879	900	904	59	11,584
Man.	8	34	62	32	146	1,187	—	862	450	492	29	3,302
Sask.	4	3	28	10	53	475	698	—	823	740	20	2,854
Alta.	15	13	55	37	124	680	539	1,494	—	1,657	107	4,721
B.C.	14	8	212	62	185	880	883	1,413	2,082	—	115	5,854
Yukon and N.W.T.	1	—	6	2	8	64	30	21	110	98	—	340
Total emigrants...	753	606	2,940	2,605	4,954	7,812	3,969	4,780	4,631	4,331	348	37,729

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-IX

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1952

Province of arrival	Province of origin										Yukon and N.W.T. arrivals	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.....	—	10	137	45	66	235	12	4	9	10	1	529
P.E.I.....	16	1	116	75	49	166	14	3	10	21	2	473
N.S.....	130	163	—	416	291	1,082	49	36	71	263	14	2,515
N.B.....	42	86	464	—	419	597	32	13	32	32	2	1,719
Que.....	67	41	303	535	—	3,160	185	71	161	165	10	4,698
Ont.....	232	225	1,259	883	3,792	—	1,426	710	814	984	78	10,403
Man.....	11	25	77	39	179	1,314	—	826	407	505	21	3,404
Sask.....	6	14	40	13	69	667	767	—	1,077	875	19	3,547
Alta.....	15	27	86	45	169	944	632	1,633	—	1,760	135	5,446
B.C.....	13	15	257	92	249	1,258	840	1,297	2,330	—	122	6,473
Yukon and N.W.T.....	3	2	15	10	9	83	27	22	134	137	—	442
Total emigrants....	535	609	2,754	2,153	5,292	9,506	3,984	4,615	5,045	4,752	404	39,649

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-X

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1953

Province of arrival	Province of origin										Yukon and N.W.T.	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.	—	11	140	36	68	198	12	1	8	11	1	486
P.E.I.	6	—	170	84	31	124	10	1	8	10	—	444
N.S.	132	162	—	436	297	933	55	35	60	236	10	2,356
N.B.	41	99	458	—	418	609	46	12	35	62	—	1,780
Que.	65	61	309	519	—	3,213	178	71	150	218	49	4,833
Ont.	271	235	1,572	1,139	4,342	—	1,448	623	828	1,023	90	11,571
Man.	9	41	83	32	155	1,216	—	868	413	471	36	3,324
Sask.	10	12	27	10	71	737	883	—	1,208	876	40	3,874
Alta.	16	27	94	39	239	1,023	654	1,465	—	2,050	129	5,736
B.C.	13	15	256	75	314	1,332	757	1,045	2,099	—	162	6,068
Yukon and N.W.T.	—	1	18	6	10	96	28	28	111	146	—	444
Total emigrants...	563	664	3,127	2,376	5,945	9,481	4,071	4,149	4,920	5,103	517	40,916

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XI

## NUMBERS OF MIGRATING FAMILIES: BY PROVINCE OF ARRIVAL AND PROVINCE OF ORIGIN, 1954

Province of arrival	Province of origin										Yukon and N.W.T. arrivals	Total arrivals
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		
Nfld.	—	16	176	41	76	226	11	4	12	17	—	579
P.E.I.	11	—	184	86	33	127	16	4	12	13	3	489
N.S.	150	196	—	451	297	1,132	79	34	86	263	12	2,700
N.B.	49	94	461	—	436	775	70	20	50	58	—	2,013
Que.	68	62	365	490	—	3,623	172	55	175	246	23	5,279
Ont.	248	210	1,555	1,032	3,930	—	1,499	681	977	1,117	96	11,345
Man.	21	62	113	76	151	1,419	—	915	540	473	29	3,799
Sask.	3	4	35	15	58	640	810	—	1,284	780	26	3,655
Alta.	12	20	113	64	194	961	620	1,423	—	1,815	112	5,334
B.C.	16	18	294	89	239	1,182	754	1,070	2,240	—	123	6,025
Yukon and N.W.T.	—	4	16	10	20	89	27	16	154	139	—	475
Total emigrants...	578	686	3,312	2,354	5,434	10,174	4,058	4,222	5,530	4,921	424	41,693

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.



Table E-XIII

## NUMBER OF MIGRATING FAMILIES: BY MONTH AND YEAR, 1947 TO 1955

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly total
1947	2,158	1,790	1,860	1,909	2,167	2,738	2,530	2,113	2,379	3,038	3,532	2,823	29,037
1948	3,080	2,012	1,785	1,699	2,039	2,558	2,295	2,233	2,347	2,900	3,053	3,047	29,048
1949	2,651	1,873	1,560	1,620	2,252	2,701	2,640	2,241	3,085	3,390	3,605	2,822	30,440
1950	2,670	1,937	1,766	1,859	2,347	2,704	2,733	2,560	3,019	3,362	3,704	2,896	31,557
1951	2,928	2,410	1,965	2,320	2,944	3,467	3,069	3,192	3,692	4,138	3,901	3,703	37,729
1952	3,016	2,670	2,419	2,375	3,160	3,462	3,406	3,369	3,683	4,431	4,022	3,636	39,649
1953	3,154	2,576	2,304	2,472	3,454	3,814	3,229	3,598	3,492	3,806	4,525	4,492	40,916
1954	3,522	2,799	2,557	3,154	3,154	3,729	3,467	3,686	3,898	4,180	4,024	3,523	41,693
1955	3,515	2,767	2,279	2,745	3,383	3,653	3,278	4,253	4,207	4,887	4,825	3,492	43,284
9-year total	26,694	20,834	18,495	20,153	24,900	28,826	26,647	27,245	29,802	34,132	35,191	30,434	323,353

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XIV

## NUMBER OF IMMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ARRIVAL, 1947

Month	Province of arrival							Yukon and				
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada
January.....	—	21	92	84	180	395	184	193	263	735	11	2,158
February.....	—	15	85	52	198	428	173	131	260	439	9	1,790
March.....	—	13	67	104	230	450	178	129	210	460	19	1,860
April.....	—	20	92	47	215	544	128	169	227	456	11	1,909
May.....	—	31	90	78	224	554	170	246	302	463	9	2,167
June.....	—	33	110	133	370	601	242	285	305	631	28	2,738
July.....	—	32	80	92	301	704	179	203	331	583	25	2,530
August.....	—	25	96	100	186	326	186	226	279	666	23	2,113
September.....	—	16	79	98	108	690	184	188	294	699	23	2,379
October.....	—	20	108	98	251	840	198	192	413	905	13	3,038
November.....	—	32	103	162	370	1,101	271	259	165	1,054	15	3,532
December.....	—	21	73	101	358	599	226	181	349	904	11	2,823
Year 1947.....	—	279	1,075	1,149	2,991	7,232	2,319	2,402	3,398	7,995	197	29,037

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XV

## NUMBER OF IMMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ARRIVAL, 1951

Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province of arrival				Alta.	B.C.	Yukon and N.W.T.		Canada
						Ont.	Man.	Sask.	N.W.T.					
January.....	30	29	135	96	354	865	287	208	350	540	34	34	2,928	
February.....	25	21	134	109	336	747	222	117	314	363	22	22	2,410	
March.....	37	28	152	73	282	593	174	148	216	244	18	18	1,965	
April.....	23	30	92	80	329	734	208	215	244	340	25	25	2,320	
May.....	47	44	152	128	301	795	289	327	411	425	25	25	2,944	
June.....	48	54	176	148	458	1,052	289	358	371	477	36	36	3,467	
July.....	37	40	159	140	403	899	252	241	365	508	25	25	3,069	
August.....	29	42	171	134	278	1,052	276	224	430	532	24	24	3,192	
September.....	43	34	220	127	354	1,139	368	290	455	635	27	27	3,692	
October.....	70	46	244	194	503	1,395	297	254	465	630	40	40	4,138	
November.....	42	45	218	166	456	1,198	374	254	560	560	28	28	3,901	
December.....	32	38	238	132	488	1,115	266	218	540	600	36	36	3,703	
Year 1951.....	463	451	2,091	1,527	4,542	11,584	3,302	2,854	4,721	5,854	340	340	37,729	

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XVI

## NUMBER OF IMMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ARRIVAL, 1955

Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province of arrival					Yukon and		
						Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada	
January.....	52	27	226	173	455	852	365	271	485	571	38	3,515	
February.....	40	24	195	171	339	761	272	182	349	399	35	2,767	
March.....	30	32	198	141	374	479	215	167	291	328	24	2,279	
April.....	38	34	210	128	306	796	268	206	348	384	27	2,745	
May.....	44	43	273	158	413	949	212	334	453	473	31	3,383	
June.....	72	41	268	201	535	778	293	314	519	597	35	3,653	
July.....	57	40	272	229	394	722	262	254	428	583	37	3,278	
August.....	57	49	261	226	501	1,246	382	296	533	661	41	4,253	
September.....	64	55	300	195	474	962	380	327	613	787	50	4,207	
October.....	61	59	298	262	673	1,510	375	277	544	770	58	4,887	
November.....	68	36	298	221	529	1,603	349	310	583	783	45	4,825	
December.....	46	25	194	156	486	1,046	254	214	438	620	13	3,492	
Year 1955.....	629	465	2,993	2,261	5,479	11,704	3,627	3,152	5,584	6,956	434	43,284	

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XVII

## NUMBERS OF EMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ORIGIN, 1947

Month	Province of origin <sup>(a)</sup>												Yukon and	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada		
January.....	—	31	121	65	197	466	244	421	416	192	5	2,158		
February.....	—	36	105	68	138	384	272	323	271	188	5	1,790		
March.....	—	33	103	83	266	378	183	285	302	223	4	1,860		
April.....	—	22	121	109	253	326	267	259	307	236	9	1,909		
May.....	—	32	175	102	283	362	333	328	280	260	12	2,167		
June.....	—	22	218	107	329	671	333	404	367	277	10	2,738		
July.....	—	16	182	118	250	506	326	427	328	365	12	2,530		
August.....	—	11	139	69	213	393	323	365	351	239	10	2,113		
September.....	—	32	219	67	347	295	333	471	390	222	3	2,379		
October.....	—	42	267	145	424	495	424	607	334	280	20	3,038		
November.....	—	43	348	169	457	674	586	559	449	226	21	3,532		
December.....	—	30	164	97	275	603	372	664	340	258	20	2,823		
Year 1947.....	—	350	2,162	1,199	3,432	5,553	3,996	5,113	4,135	2,966	131	29,037		

(a) Based on accounts transferred into a province. It is assumed that the families whose accounts were transferred into a province in any month from another province left that province in the same month.

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XVIII

## NUMBERS OF EMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ORIGIN, 1951

Year	Nfld.	P.E.I.	N.S.	N.B.	Province of origin (a)					Yukon and		
					Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada
January.....	56	57	178	203	346	558	282	526	408	286	28	2,928
February.....	52	38	146	164	419	497	215	347	267	245	20	2,410
March.....	28	36	143	174	262	438	205	212	240	209	18	1,965
April.....	37	38	182	142	316	477	249	219	320	330	10	2,320
May.....	46	49	238	196	381	568	335	345	320	429	37	2,944
June.....	59	52	275	299	418	764	387	376	401	414	22	3,467
July.....	65	43	248	174	394	687	332	307	438	356	25	3,069
August.....	73	53	274	247	432	590	342	378	393	374	36	3,192
September.....	71	59	293	220	424	737	445	437	550	414	42	3,692
October.....	95	70	424	292	535	815	416	515	476	470	30	4,138
November.....	83	63	306	279	513	771	402	500	492	441	51	3,901
December.....	88	48	233	215	514	910	359	618	326	363	29	3,703
Year 1951.....	753	606	2,940	2,605	4,954	7,812	3,969	4,780	4,631	4,331	348	37,729

(a) Based on accounts transferred into a province. It is assumed that the families whose accounts were transferred into a province in any month from another province left that province in the same month.

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XIX

## NUMBERS OF EMIGRATING FAMILIES: BY MONTH AND PROVINCE OF ORIGIN, 1955

Year	Province of origin <sup>(a)</sup>										Yukon and	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada
January.....	39	35	200	181	426	813	303	578	575	337	28	3,515
February.....	39	38	197	135	509	705	253	304	325	240	22	2,767
March.....	52	30	164	168	238	609	225	206	300	256	31	2,779
April.....	35	47	234	137	412	660	234	280	339	339	28	2,745
May.....	45	33	229	191	524	819	413	320	411	352	46	3,383
June.....	53	49	264	218	413	1,045	320	405	488	367	31	3,653
July.....	51	38	274	173	343	800	359	378	501	343	18	3,278
August.....	46	46	341	253	703	925	450	462	542	422	63	4,253
September.....	67	52	310	249	323	1,031	482	557	683	410	43	4,207
October.....	74	67	394	289	864	1,086	563	505	584	419	42	4,887
November.....	57	64	392	329	840	950	498	559	672	391	73	4,825
December.....	46	68	263	205	480	767	316	616	443	250	38	3,492
Year 1955.....	604	567	3,262	2,528	6,075	10,210	4,416	5,170	5,863	4,126	463	43,284

(a) Based on accounts transferred into a province. It is assumed that the families whose accounts were transferred into a province in any month from another province left that province in the same month.

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XX

## NET GAIN OR LOSS (—) OF FAMILIES THROUGH MIGRATION: BY MONTH AND PROVINCE, 1947

Month	Natd.	Province										Yukon and	
		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	N.W.T.	Canada	
January.....	—	-10	-29	19	-17	-71	-60	-228	-153	543	6	—	
February.....	—	-21	-20	-16	60	44	-99	-192	-11	251	4	—	
March.....	—	-20	-36	21	-36	72	-5	-156	-92	237	15	—	
April.....	—	-2	-29	-62	-38	218	-139	-90	-80	220	2	—	
May.....	—	-1	-85	-24	-59	192	-163	-82	22	203	-3	—	
June.....	—	11	-108	26	41	-70	-91	-119	-62	354	18	—	
July.....	—	16	-102	-26	51	198	-147	-224	3	218	13	—	
August.....	—	14	-43	31	-27	-67	-137	-139	-72	427	13	—	
September.....	—	-16	-140	31	-239	395	-149	-283	-96	477	20	—	
October.....	—	-22	-159	-47	-173	345	-226	-415	79	625	-7	—	
November.....	—	-11	-245	-7	-87	427	-315	-300	-284	828	-6	—	
December.....	—	-9	-91	4	83	-4	-146	-483	9	646	-9	—	
Year 1947.....	—	-71	-1,087	-50	-441	1,679	-1,677	-2,711	-737	5,029	66	—	

Source: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XXI

## NET GAIN OR LOSS (—) OF FAMILIES THROUGH MIGRATION: BY MONTH AND PROVINCE, 1951

Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province				B.C.	Yukon and N.W.T.		Canada
						Ont.	Man.	Sask.	Alta.				
January.....	-26	-28	-43	-107	8	307	5	-318	-58	254	6	—	—
February.....	-27	-17	-12	-55	-83	250	7	-230	47	118	2	—	—
March.....	9	-8	9	-101	20	155	-31	-64	-24	35	0	—	—
April.....	-14	-8	-90	-62	13	257	-41	-4	-76	10	15	—	—
May.....	1	-5	-86	-68	-80	227	-46	-18	91	-4	-12	—	—
June.....	-11	2	-99	-151	40	288	-98	-18	-30	63	14	—	—
July.....	-28	-3	-89	-34	9	212	-80	-66	-73	152	0	—	—
August.....	-44	-11	-103	-113	-154	462	-66	-154	37	158	-12	—	—
September.....	-28	-25	-73	-93	-70	402	-77	-147	-95	221	-15	—	—
October.....	-25	-24	-180	-98	-32	580	-119	-261	-11	160	10	—	—
November.....	-41	-18	-88	-113	-57	427	-28	-246	68	119	-23	—	—
December.....	-56	-10	5	-83	-26	205	-93	-400	214	237	7	—	—
Year 1951.....	-290	-155	-849	-1,078	-412	3,772	-667	-1,926	90	1,523	-8	—	—

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XXII

## NET GAIN OR LOSS (—) OF FAMILIES THROUGH MIGRATION: BY MONTH AND PROVINCE, 1955

Month	Nfld.	P.E.I.	N.S.	N.B.	Que.	Province				B.C.	Yukon and	
						Ont.	Man.	Sask.	Alta.		N.W.T.	Canada
January.....	13	-8	26	-8	29	39	62	-307	-90	234	10	—
February.....	1	-14	-2	36	-170	56	19	-122	24	159	13	—
March.....	-22	2	34	-27	136	-130	-10	-39	-9	72	-7	—
April.....	3	-13	-24	-9	-106	136	34	-74	9	45	-1	—
May.....	-1	10	44	-33	-111	130	-201	14	42	121	-15	—
June.....	19	-8	4	-17	122	-267	-27	-91	31	230	4	—
July.....	6	2	-2	56	51	-78	-97	-124	-73	240	19	—
August.....	11	3	-80	-27	-202	321	-68	-166	-9	239	-22	—
September.....	-3	3	-10	-54	151	-69	-102	-230	-70	377	7	—
October.....	-13	-8	-96	-27	-191	424	-188	-228	-40	351	16	—
November.....	11	-28	-94	-108	-311	653	-149	-249	-89	392	-28	—
December.....	0	-43	-69	-49	6	279	-62	-402	-5	370	-25	—
Year 1955.....	25	-102	-269	-267	-596	1,494	-789	-2,018	-279	2,830	-29	—

SOURCE: Derived from the monthly family allowances statistics of the Treasury Office, Department of National Health and Welfare.

Table E-XXIII

## NUMBER OF "FAMILY ALLOWANCES" FAMILIES, BY PROVINCE, JUNE 1947 TO 1955

Province	1947	1948	1949	1950	1951	1952	1953	1954	1955	9-year average
Newfoundland.....	—	—	—	50,905	51,811	52,794	54,150	55,518	57,055	—
Prince Edward Island.....	12,426	12,803	13,001	13,256	13,335	13,281	13,199	13,210	13,157	—
Nova Scotia.....	85,097	87,597	89,582	91,246	92,207	93,175	94,608	96,211	97,784	—
New Brunswick.....	66,410	69,016	71,150	72,703	72,692	73,701	74,664	75,445	76,567	—
Atlantic.....	163,933	169,416	173,733	228,110	230,045	232,951	236,621	240,384	244,563	—
Quebec.....	455,053	473,991	493,216	512,251	529,918	548,702	569,845	590,723	611,293	213,306
Ontario.....	536,826	560,718	581,432	609,279	633,333	657,584	688,756	719,635	751,856	531,665
Manitoba.....	98,359	100,740	102,968	106,564	108,853	111,215	114,109	117,103	120,342	—
Saskatchewan.....	114,131	115,220	116,006	117,811	118,775	119,609	121,676	124,803	127,041	—
Alberta.....	116,668	120,672	125,772	132,480	137,252	142,158	149,117	156,708	163,482	—
Prairie.....	329,158	336,632	344,746	356,855	364,880	372,982	384,902	398,614	410,865	366,626
British Columbia.....	129,977	141,460	149,540	157,193	162,010	168,210	175,513	182,345	189,938	161,798
Yukon and Northwest Territories.....	2,845	3,337	3,639	3,910	4,075	4,109	4,278	4,456	4,644	—
Canada.....	1,617,792	1,685,554	1,746,306	1,867,598	1,924,261	1,984,538	2,059,915	2,136,157	2,213,159	1,915,031

Table E-XXIV

**AVERAGE NUMBER OF CHILDREN PER FAMILY,  
BY PROVINCE, JUNE 1947, 1951 AND 1955**

Province	Average number of children per family		
	June 1947	June 1951	June 1955
Newfoundland.....	—	2.82	3.00
Prince Edward Island.....	2.53	2.58	2.73
Nova Scotia.....	2.33	2.38	2.45
New Brunswick.....	2.57	2.64	2.77
Quebec.....	2.72	2.67	2.68
Ontario.....	1.99	2.02	2.12
Manitoba.....	2.08	2.11	2.22
Saskatchewan.....	2.26	2.24	2.30
Alberta.....	2.15	2.15	2.24
British Columbia.....	1.90	1.95	2.07
Yukon and Northwest Territories.....	2.21	2.20	2.31
Canada.....	2.27	2.29	2.36

SOURCE: Monthly family allowances statistics, Treasury Office, Department of National Health and Welfare.

**MOBILITY OF INSURED POPULATION, BY SEX AND PROVINCE, BETWEEN 1954 AND 1955**  
*(based on 5% sample of the total insured population)*

Province of location in 1954	Province of location in 1955															
	Canada		Nfld.		P.E.I.		N.S.		N.B.		Que.		Ont.		Man.	
	(a) Total	M	F	M	F	M	F	M	F	M	F	M	F	M	F	B.C.
Nfld.....	780	660	120			20	180	20	20	20	240	20	220	40		
P.E.I.....	860	580	280	20		300			200	80	20	40	40	140		20
N.S.....	3,320	2,720	600	440	140	20			700	160	360	60	980	320	20	60
N.B.....	3,960	3,280	680	160	20	20	720	180			1,440	220	820	220	20	20
Que.....	17,700	13,860	3,840	160	20	80	380	140	1,820	160			10,340	3,140	300	100
Ont.....	19,080	13,960	5,120	240	40	40	580	280	720	120	7,380	2,860	2,260	860	2,100	540
Man.....	6,580	4,980	1,600				20	40			340	160			700	80
Sask.....	7,260	6,180	1,080								20	40	620	320	2,760	180
Alta.....	7,900	6,600	1,300	40		20					300	40	1,040	300	1,440	200
B.C.....	6,240	4,600	1,640	40		60			40	20	240	180	1,340	520	420	180
Canada.....	73,680	57,400	16,280													

(a) In Units.

Source: D.B.S., Labour and Prices Division, Unemployment Insurance Section.

NUMBER OF PERSONS ISSUED AN UNEMPLOYMENT INSURANCE BOOK, APRIL 1, 1954, AND JUNE 1, 1955  
*Classified by sex and province  
 (based on 10% sample)*

Province	1954		Total(a)	1955	
	Total	Female		Male	Female
Canada.....	3,231,110	836,880	3,469,000	2,559,775	909,225
Newfoundland.....	49,600	6,190	53,769	45,791	7,978
Prince Edward Island.....	9,590	2,530	9,366	6,938	2,428
Nova Scotia.....	107,240	21,940	118,640	95,744	22,896
New Brunswick.....	95,850	17,900	93,663	74,236	19,427
Quebec.....	922,280	242,100	982,768	722,593	260,175
Ontario.....	1,297,910	356,890	1,408,414	1,017,111	391,303
Manitoba.....	167,120	47,960	173,103	124,190	48,913
Saskatchewan.....	90,860	23,210	94,524	70,241	24,283
Alberta.....	183,260	42,020	204,324	156,452	47,872
British Columbia.....	307,400	76,140	330,249	246,299	83,950

(a) This figure is subject to revision.

SOURCE: D.B.S. Labour and Prices Division, Unemployment Insurance Section.

# AGE DISTRIBUTION AND DESTINATION OF INSURED PERSONS WHO MOVED TO OTHER REGIONS BETWEEN 1954 AND 1955

(based on 5% sample of the total insured population)

Region of origin, 1954	age-group	Region of destination, 1955				
		Atlantic	Quebec	Ontario	Prairie	Pacific
Atlantic	All age-groups		2,400	2,760	180	140
	14-19		200	60	40	20
	20-44		1,780	2,220	140	100
	45-64		340	420	—	20
	65 and over		60	40	—	—
	Unspecified		20	20	—	—
Quebec	All age-groups	2,760		13,480	820	640
	14-19	60		820	20	100
	20-44	2,080		10,280	580	440
	45-64	580		1,880	200	100
	65 and over	—		260	—	—
	Unspecified	40		240	20	—
Ontario	All age-groups	2,060	10,240		4,680	2,100
	14-19	60	560		400	80
	20-44	1,700	7,900		3,700	1,740
	45-64	260	1,300		500	220
	65 and over	40	260		20	—
	Unspecified	—	220		60	60
Prairie	All age-groups	260	900	5,400		5,080
	14-19	20	100	220		640
	20-44	200	660	4,340		3,600
	45-64	40	100	680		640
	65 and over	—	20	60		160
	Unspecified	—	20	100		40
Pacific	All age-groups	100	420	1,860	3,860	
	14-19	—	—	60	220	
	20-44	60	340	1,480	2,840	
	45-64	40	60	200	660	
	65 and over	—	—	80	60	
	Unspecified	—	20	40	80	

SOURCE: Dominion Bureau of Statistics, Labour and Prices Division, Unemployment Insurance Section, June 1956.

**OCCUPATIONAL DISTRIBUTION AND DESTINATION OF INSURED PERSONS  
WHO MOVED TO OTHER REGIONS BETWEEN 1954 AND 1955**  
(based on 5% sample of the total insured population)

Region of origin, 1954	Occupation	Total <sup>(a)</sup> insured population	Region of destination, 1955				Pacific
			Atlantic	Quebec	Ontario	Prairie	
Atlantic	All occupations.....	262,280	—	2,600	2,760	180	140
	Managerial.....	4,800	—	20	40	40	—
	Professional.....	3,780	—	100	100	—	20
	Clerical.....	32,140	—	420	680	20	40
	Transportation.....	26,010	—	180	160	20	20
	Communication.....	4,800	—	—	20	—	—
	Commercial.....	19,530	—	200	400	20	—
	Service (other than professional).....	17,080	—	200	140	—	—
	Fishing, trapping and logging.....	14,310	—	200	160	—	—
	Mining.....	15,220	—	240	20	—	—
	Manufacturing and mechanical.....	34,760	—	320	240	—	20
	Construction.....	18,660	—	240	100	20	—
	Labourers.....	50,820	—	440	600	60	40
	Other occupations.....	5,450	—	—	80	—	—
	Unspecified.....	2,680	—	20	20	—	—
	Unemployed.....	12,240	—	20	—	—	—
Quebec	All occupations.....	922,280	2,760	—	13,480	820	640
	Managerial.....	12,090	80	—	380	60	—
	Professional.....	22,690	60	—	680	40	60
	Clerical.....	147,950	380	—	3,160	180	100
	Transportation.....	64,810	340	—	900	60	40
	Communication.....	15,510	20	—	300	20	40
	Commercial.....	66,990	180	—	1,560	120	40
	Service (other than professional).....	62,270	140	—	660	100	40

Region of origin, 1954	Occupation	Total (a) insured population	Region of destination, 1955			
			Quebec	Ontario	Prairie	Pacific
Ontario	Fishing, trapping and logging.....	21,890	—	600	—	80
	Mining.....	12,030	—	160	20	20
	Manufacturing and mechanical.....	242,160	—	2,020	40	40
	Construction.....	53,470	—	700	80	80
	Labourers.....	147,120	—	1,960	100	100
	Other occupations.....	12,730	—	180	—	—
	Unspecified.....	13,670	—	200	—	—
	Unemployed.....	26,900	—	20	—	—
	All occupations.....	1,297,910	10,240	—	4,680	2,100
	Managerial.....	24,500	200	—	120	80
	Professional.....	37,680	600	—	280	100
	Clerical.....	242,320	2,940	—	1,080	700
	Transportation.....	85,380	880	—	860	120
	Communication.....	24,840	180	—	100	40
	Commercial.....	107,340	1,100	—	620	140
	Service (other than professional).....	94,980	500	—	80	160
	Fishing, trapping and logging.....	6,970	140	—	20	60
	Mining.....	22,250	260	—	240	120
	Manufacturing and mechanical.....	342,800	1,140	—	320	160
	Construction.....	65,980	660	—	100	80
	Labourers.....	187,860	1,140	—	600	280
	Other occupations.....	24,380	300	—	120	20
	Unspecified.....	14,950	80	—	120	40
	Unemployed.....	15,680	120	—	20	—

Prairie	All occupations.....	441,240	260	900	5,400	—	5,080
	Managers.....	11,060	—	40	180	—	60
	Professional.....	11,510	—	60	200	—	100
	Clerical.....	79,070	60	280	1,400	—	680
	Transportation.....	49,290	20	40	700	—	480
	Communication.....	5,020	—	—	60	—	100
	Commercial.....	45,920	—	60	660	—	420
	Service (other than professional).....	45,030	80	40	340	—	500
	Fishing, trapping and logging.....	1,180	40	—	200	—	140
	Mining.....	13,640	—	20	80	—	140
	Manufacturing and mechanical.....	62,600	20	100	460	—	760
	Construction.....	27,200	20	80	240	—	500
	Labourers.....	67,260	20	160	700	—	1,040
	Other occupations.....	7,690	—	20	80	—	120
	Unspecified.....	7,500	—	—	80	—	20
	Unemployed.....	7,270	—	—	20	—	20
Pacific	All occupations.....	307,400	100	420	1,860	3,860	—
	Managers.....	5,960	—	—	20	120	—
	Professional.....	7,090	20	40	80	80	—
	Clerical.....	48,030	—	160	680	680	—
	Transportation.....	30,620	—	—	120	360	—
	Communication.....	7,610	—	—	80	40	—
	Commercial.....	27,330	—	60	180	340	—
	Service (other than professional).....	32,330	20	20	100	480	—
	Fishing, trapping and logging.....	11,540	—	—	20	140	—
	Mining.....	6,220	—	20	20	200	—
	Manufacturing and mechanical.....	51,850	—	60	180	280	—
	Construction.....	19,470	—	20	20	340	—
	Labourers.....	42,580	20	20	280	540	—
	Other occupations.....	7,580	40	20	40	140	—
	Unspecified.....	4,430	—	—	40	40	—
	Unemployed.....	4,760	—	—	—	80	—

(a) Number of persons issued an unemployment insurance book, April 1, 1954, classified by occupation and region, based on 10% sample.

Sources: Annual report on benefit years, etc. (1954).

D.B.S. Labour and Prices Division, Unemployment Insurance Section, June 1956.

	Migrants as a percentage of insured population				
	Atlantic	Quebec	Ontario	Prairie	Pacific
All occupations.....	2.1	1.9	1.5	2.6	2.0
Managerial.....	2.1	4.3	1.8	2.5	2.3
Professional.....	5.8	3.7	2.9	3.1	3.1
Clerical.....	3.6	2.6	2.1	3.1	3.2
Transportation.....	1.5	2.1	2.3	2.5	1.6
Communication.....	0.4	2.5	1.5	3.2	1.6
Commercial.....	3.2	10.3	2.0	2.5	2.1
Service (other than professional).....	2.0	1.5	0.9	2.1	1.9
Fishing, trapping and logging.....	2.5	4.4	4.3	32.2	1.4
Mining.....	1.7	2.2	3.2	1.8	3.9
Manufacturing and mechanical.....	1.7	0.9	0.5	2.1	1.0
Construction.....	1.9	2.2	1.5	3.1	2.0
Labourers.....	2.2	1.9	1.3	2.9	2.0
Other occupations.....	1.5	1.9	1.8	2.9	3.2
Unspecified.....	1.5	1.5	1.6	1.3	1.8
Unemployed.....	0.2	0.3	0.9	0.6	1.7

## MEMORANDUM

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## MEMORANDUM

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**NATIONAL DEFENCE AND REGIONAL DEVELOPMENT***Introduction*

This memorandum arises out of an attempt to assess the influence of defence spending on regional economic development in Canada. It seems reasonable to assume that the exigencies of war, particularly the 1939-45 war effort and more recent defence preparations, have contributed considerably to the pattern of economic growth in Canada. It is natural to question whether these expenditures have been sufficiently large to constitute a major influence. In what direction has that influence been felt, and have the effects impinged equally on all regions? What implications, if any, has defence spending in the future with respect to regional development?

It was not considered necessary to pursue this inquiry beyond readily available statistics. The most important gap in information relates to capital assistance given to industry since 1945. No data on this aspect of defence spending are available for that period.<sup>1</sup> Before any definitive comment can be made regarding the regional implications of defence spending, it would also be necessary to have a further refinement of the available regional figures, as they are not fully accurate. For example, defence contracts are classified regionally according to the location of the prime contractor. Subcontracting would undoubtedly change the picture somewhat. While the statistical gaps are regrettable, notably that relating to capital assistance, it is probable that the data are sufficient to substantiate the more general observations offered in this memorandum.

*The Impact on Canadian Economy*

From the point of view of economic development, the impact of World War II and subsequent defence preparations has undoubtedly been much greater than that arising out of World War I. This is partly so because Canada's contribution was required to be more strongly directed in more recent years toward the supply of the tools of war. It has been said that World War I hastened the development of Canadian manufacturing, enabling that sector of the economy to take the lead over agriculture in net value of production, briefly in 1920 and permanently after 1928. Regarding World War II, Canadian production of goods and services for war purposes between

<sup>1</sup> "Capital expenditure by the Canadian Government since 1950 adds up to over \$160 million. Most of this has gone into the aircraft and to a lesser extent into the shipbuilding, ammunition and electronics industries (aircraft \$108 million, ammunition \$21 million, shipbuilding \$18 million, guns \$5 million, electronics \$2 million, other industries \$6 million). Yet this additional defence money has resulted in the erection of at least 20 new factories, some employing thousands of people and some making products entirely new to Canada, such as radar sets, jet engines, aircraft instruments and marine propulsion equipment. All are of the most advanced types and all are being made with the latest machinery and equipment. Designed with additional capacity in the event of emergency . . . Today they provide employment for over 30,000 Canadians." — Extract from the handbook, *Canada 1954*, page 212.

September 1, 1939, and December 31, 1945, was approximately \$20,000 million. This effort is reflected in the growth of the Canadian economy generally. Gross national production at market prices rose from \$5,700 million in 1939 to \$11,850 million in 1945. It has been estimated that some 75% of the increase arose from war activities, which at their peak accounted for some 35% of total productive activity. Although defence spending has occupied a smaller proportion of total Canadian economic activity since 1945, it has continued to involve large-scale expenditures and the development of industrial capacity and skills on a significant scale.

The magnitude of Canada's defence effort since 1939, then, has been significant, but the scale of things is perhaps of less significance than the fact that Canada was required to develop a considerable degree of industrial specialization in addition to increasing her total production of goods and services. By general consent, Canada in this period greatly increased her industrial capacity and efficiency. In particular, Canada developed new manufacturing facilities and new labour and management skills and achieved a much greater integration of her industries. It is significant that the substantial proportion of the production effort of World War II came from newly created facilities and an increase in the number and effort of the working force, rather than from activities superimposed on the established facilities of the country. More than 50% of the Canadian war production was from plants which were not in existence in 1939, and considerable growth in new production facilities was associated with the war in Korea and subsequent defence preparations.

Investment in durable physical assets between September 1, 1939, and December 31, 1945, was some \$8,614 million. (See Table G-I, Appendix.) Of this, some 27%, or some \$2,331 million, was invested for specific war purposes. A further 23%, or \$1,954 million, was for war-related purposes. Thus approximately 50% of investment of this nature was essentially for war purposes. Defence and training installations accounted for \$965 million, which represents some 41% of the total invested for specific war purposes. The remaining 59%, or some \$1,366 million, was invested for new industrial plant and equipment. This figure does not include expenditures on small tools and other equipment written off to current production costs. With the addition of this item, or some \$519 million, the total for new industrial plant and equipment amounted to \$1,885 million. It was in the nature of things that the pressing need to create new industrial plant and equipment for war purposes should cause the federal government to participate heavily in the programme of capital formation. Of the total expenditure (\$1,366 million), some \$718 million was provided by government expenditure in Crown plants and Crown companies, many of which were operated privately on behalf of the government. This figure does not include investment in defence installations, which amounted to some \$965 million, or the further sum of \$91 million expended for war-time housing.

In assessing the impact of the expenditures for new plant and equipment, it is interesting to note that more than 50% of plant floor space and a higher proportion of the machinery and equipment resulting from federal government investment were found to have a peace-time use. Nearly three-fourths of the plant and equipment financed by private corporations for war purposes, or some \$350 million to \$400 million out of expenditures amounting to \$514 million, proved suitable for peace-time use. Accelerated depreciation and the salvage value prices associated with the disposal of some Crown-owned plant facilities greatly assisted Canadian industry in its preparation for postwar activity.

It is possible that the war-time accumulation of technical and administrative skills and the knowledge of new products and processing methods were the more important and permanent industrial gain. Again it would appear that, in any assessment of industrial development arising out of the war effort, reference to direct investment for war-production purposes and the salvage of plant and equipment for peace-time purposes is somewhat of an understatement, since there is normally an agglomerating factor in any such situation. The creation of an industry tends to strengthen other industrial activity in the same area; in particular it stimulates the growth of small industries, which mushroom for the purpose of producing parts and services for the new firm or industrial activity.

Although no figures are available to measure the industrial development that has arisen out of defence expenditures since 1945, the dimensions of defence contracts and the type of equipment required for military purposes during this period suggest that the industrial development implications have been considerable. This is particularly true in regard to the aircraft, electrical and electronic industries. Defence contracts excluding capital assistance, which undoubtedly constituted a further large expenditure, amounted to some \$3,427 million over the period from April 1, 1951, to September 30, 1954. The aircraft, electrical and electronic industries received the major contracts during this period.

One development in this period provides an interesting example of the tendency of one new industry to spawn others. It has been estimated that government expenditures of some \$120 million to facilitate the production of aircraft engines (Orenda Engines Ltd.) and a further \$12 million to encourage the setting up of allied industries gave rise to some 15,000 new jobs and had a very wide diversifying effect on other industries. In the process, Canada got her first ball-bearing factory (SKF), her first factory for producing castings for super-light magnesium, which in turn sparked expansion in this field of mining, and a factory for producing forgings in aluminum and steel. From this activity there also arose the demand for special alloy steels and for other high-temperature alloys (Canadian Steel Improvement Limited). Joseph Lucas of England set up Lucas-Rotax Limited to provide systems and controls for Orenda. Light-Alloys Limited set up a magnesium

foundry. The new requirements for ferro-silicon provoked the construction of a new plant at Beauharnois to end our dependence on Norwegian supplies. It is estimated that some 80 firms have been involved, with a total of 8,500 jobs, in the required subcontracting.

From a review of the whole period from 1939 until at least the end of the Korean conflict, it would appear that the most striking result of national defence expenditures in regard to the Canadian economy is the stimulus provided for the development of manufacturing. Associated with this are the greatly developed diversity of commodities produced in Canada and the growing extent to which industrial production has been integrated.

### *Regional Incidence*

Some regional figures on war and defence spending, related to both defence requirements and federal government capital expenditures, appear in Tables G-II to G-VI of this Appendix. It is clear from these figures that defence spending has been sufficient in scale to have considerable impact on the economies of all the regions of Canada, not only in the war period but since 1945. It is equally apparent that both in respect of contracts for industrial production and of new investment in plant and equipment, the main incidence of expenditures has been in Ontario and Quebec, with British Columbia somewhat ahead of the other provinces. Briefly, Ontario and Quebec received some 89% of the war contracts on a dollar-volume basis in the period July 14, 1939, to December 31, 1946. Over the period April 1, 1951, to September 30, 1954, these provinces received some 84% on a dollar-volume basis. In regard to federal government investment in new plant and equipment, Quebec and Ontario provided the sites for 86.5% of such investment from September 1939 to December 31, 1945. No figures are available for the years subsequent to 1945, but the contract figures do not suggest that there has been any change in the locational incidence of capital expenditures in the latter period. Neither was there any reason to expect any difference in emphasis after the regional figures were available for private investment for war or defence purposes. On the contrary, it is reasonable to assume that in the absence of factors which governments normally consider, an even greater proportion of the total private investment took place in the central provinces.

Further reference to the figures shows that the development which took place in the regions as a result of defence spending, whether related to production or to investment, tended to strengthen rather than change the existing pattern of regional economic activity. This was to be expected in such an emergency period, when the essential requirement was for maximum production returns with a minimum of delay. In view of this, the dispersion over the regions can be viewed as somewhat remarkable. Reference to Tables G-V and G-VI makes it clear that the general effect in the Maritime Region was a rapid growth in the level of industrial activity rather than the

creation of new industry. Large military installations rather than new plant and equipment are characteristic of capital expenditures in the area. The entry made by the Maritimes, in common with the other regions, into the field of aircraft assembly and repair was a reflection of the widespread dispersal of air activity in Canada during the war period. Typical developments in the Prairie Provinces are associated with the provision of food, clothing and miscellaneous stores, with some minor developments in the field of explosives. British Columbia shows a wider diversity of activity, but this diversity is much less than in Ontario and Quebec.

While it is practically impossible to make an accurate assessment of the ultimate regional distribution of defence spending, it can be said, briefly, that throughout the war years and over the longer period that also covers subsequent defence preparations, these expenditures have tended to strengthen the pattern of industrial location rather than to spark its growth in new areas. A similar observation could be made with reference to government investment in war-production or related facilities over the same period.

### *The Present and Future Outlooks*

It is common knowledge that defence spending is an important factor in the Canadian economy at the present time, and it is generally conceded that, although it may be expected to decline in significance in relation to the growth of national production, it will remain a significant force in the general level of economic activity. An estimate of the regional distribution of national defence expenditures and of the regional distribution of the civilian and military pay and allowances sector of these expenditures appears in Tables G-VII and G-VIII. The continuing nature of these expenditures and their importance in the economies of some of the Canadian regions would appear to merit some observations.

Although considerable reservations are necessary regarding the meaning of the figures, it is clear that defence spending in the Atlantic Region forms a vital part of the economy of that region. Civilian and military pay and allowances allocated to the Atlantic Region for 1954-55, exclusive of those of the United States armed forces, amounted to some \$83 million, a figure which is probably a considerable understatement. The alternative figure is about \$145 million, which covers defence spending as a whole (excluding United States expenditures) as allocated to the region; but it is hard to determine the extent to which this figure is gross or net in view of the practice of allocating defence expenditures regionally on the basis of the location of the prime contractors. On either count, however, the expenditures are significant.

The situation is most dramatically apparent in the case of Newfoundland. Canadian defence spending in this province is relatively small. In the fiscal year 1954-55, civilian and military pay and allowances were approximately \$4 million, and total defence spending, on the basis of previous years, would

probably amount to less than \$5 million. It is difficult to assess the data available on United States spending and to provide clear-cut figures on the net value of these expenditures in the Newfoundland economy. The most conservative figures for the United States North East Air Command are as follows:

*Fiscal Year 1955*

Payrolls.....	\$15,893,920
Purchases.....	6,291,606
Contract.....	1,106,954
Personal expenditures.....	4,544,764
	<hr/>
	\$27,837,244

SOURCE: *Newfoundland Journal of Commerce*, October 1955.

This total does not include contractors' payrolls nor the United States Navy expenditures. These expenditures would be substantial, and it is estimated that total United States and Canadian spending would amount to well over \$40 million. On an annual payroll basis, the United States Air Force and Navy in 1955 probably paid out to civilian employees over \$20 million. A further \$10 million in payrolls would accrue from the inclusion of contractors' and Canadian defence expenditures. The total payroll of, say, \$30 million would approximate total annual earnings in manufacturing in Newfoundland (\$26.6 million).

Defence spending in the Atlantic Provinces amounts, on a payroll basis alone, to over \$110 million annually if United States spending is included. This figure compares with total earnings in manufacturing (D.B.S. definition) of some \$165 million and \$61,909,253 for mining, the only sectors of the economy for which payroll figures are available. The figure is impressive even when compared with the net value of production of the various sectors of the Atlantic Provinces regional economy, which are as follows:

Agriculture.....	\$ 63,000,000
Mining.....	78,500,000
Forestry.....	56,200,000
Fisheries.....	44,000,000
Primary manufacturing.....	151,000,000
Secondary manufacturing.....	160,700,000

If defence spending appears to play a less prominent role in the economy of the other regions of Canada, it is nevertheless quite significant. It should be noted, moreover, that although the figures are small in respect of the Yukon and Northwest Territories, defence spending in that area has been

an increasingly important factor in these northern economies. This observation would probably be strengthened if United States defence spending figures were available.

There are a number of questions which arise quite naturally out of these data. The vulnerability of the Newfoundland economy is very obvious. Military expenditures are also highly significant in the economy of the Atlantic Region as a whole. Are they likely to remain so? If so, these expenditures, in view of the large concentration of men involved, virtually amount to moving a market to that area. Is it possible, by adjustment in purchasing procedures and with greater initiative on the part of local industry, to secure more supplies from local sources? Is it logical and practical to develop local research and development facilities for the equipment requirements of the defence forces and the local production of more of this equipment? The Hon. Robert Winters, in a communication which reached this Commission, expressed the thought that the federal government "could take a more direct hand in placing some of its own operations, such as arsenals and the like, in the Maritime area through a programme of decentralization and, therefore, encourage private industry to follow suit". Similar questions arise in respect of the West. In the North there is a close association between defence spending and the development of the region for, in the circumstances of the area, military expenditures are required to include the construction of facilities which already exist in more developed areas. It is perhaps worthy of note that Canada has now assumed very large military obligations and that these commitments to large-scale expenditures for defence purposes are in distinct contrast with the conditions surrounding Canadian development prior to 1939. During this earlier period Canada effectively relied entirely on the United Kingdom and progressively on the United States for national defence. During the period of acceptance of large military obligations, Canada has also embraced many of the attributes of the welfare state. This naturally has a limiting influence on expenditures for industry or resource development. In this context, careful consideration of a closer integration of military expenditures and regional development would seem to be reasonably desirable.

It should perhaps be pointed out that a natural reluctance on the part of the appropriate authorities concerned with defence spending to consider broader issues must be anticipated. It is unrealistic to feel that such a policy can be carried out without constant attention and high-level policy directives. It is true to say that the alternative policy, or a policy which pays no serious attention to the regional implications of defence spending, amounts in fact to a strengthening of the forces which are making for regional disparity.

*May, 1956*

Table G-I

INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, SEPTEMBER 1, 1939 TO DECEMBER 31, 1945 (a)

(millions of dollars)

	1939-40 (b)	1941	1942	1943	1944	1945	Total
Investment for specific war purposes.....	219	478	619	661	266	88	2,331
War-production facilities.....	125	351	388	332	116	54	1,366
Defence and training installations.....	94	127	231	329	150	34	965
Investment directly related to war.....	333	354	376	349	325	217	1,954
Wartime housing (c).....	—	11	30	30	9	11	91
"Capital current" items (d).....	59	85	119	140	79	37 (e)	519
Industrial and other (f).....	274	258	227	179	237	169 (e)	1,344
Other investment.....	761	627	620	604	765	952	4,329
Government ordinary (g).....	227	201	202	296	366	263	1,555
Private residential and institutional construction.....	216	183	147	140	181	239	1,106
Private industrial and commercial (h).....	318	243	271	168	218	450	1,668
Total.....	1,313	1,459	1,615	1,614	1,356	1,257	8,614

(a) Preliminary estimate, subject to revision as further data became available.

(b) September 1, 1939, to December 31, 1940.

(c) See *Housing in Canada*, January 1946, Central Mortgage and Housing Corporation, Ottawa.

(d) "Capital outlay charged to current account." The total of tools and other items of equipment, valued individually at less than \$50, which were charged to current production costs. Probably at least three-quarters of the total of these expenditures represented equipment purchased in the war-production programmes and hence could be classified as specific war investment. The 1939-40 figure includes \$10 million for 1939 — one-third of the 1939 total.

(e) Two-thirds of the 1945 total to approximate the figure for the eight months from January to August. The balance is included under "Other investment — private industrial and commercial" for 1945.

(f) Including investments of enterprises such as railways, air, water and highway transportation, central electric power stations, construction, warehousing and storage, lumbering, farming, and fishing. Most of the expansion in these activities during the period was undertaken to meet war needs. The figure for the four months September-December, 1939, was taken as \$38 million — one-third of the total for the year 1939.

(g) Dominion, provincial, and municipal government investment; i.e., total government investment less Dominion investment in war-production facilities, defence installations, and war-time housing.

(h) Including investments of some manufacturing and woods operations as well as of financial, investment, real estate and retail establishments, garages, restaurants, theatres, laundries, taxicabs, and other professional, personal and recreational services.

SOURCE: Department of Trade and Commerce.

Table G-II

**CONTRACTS AWARDED BY THE DEPARTMENT OF RECONSTRUCTION AND SUPPLY AND THE DEPARTMENT OF MUNITIONS AND SUPPLY AND PREDECESSOR BODIES FROM JULY 14, 1939 TO DECEMBER 31, 1946**

	Millions of dollars	%
Maritime Provinces.....	380.5	3.2
Quebec.....	5,223.6	43.6
Ontario.....	5,436.7	45.4
Prairie Provinces.....	301.8	2.5
British Columbia.....	634.6	5.3
Total.....	11,977.2	100.0

NOTE: The foregoing figures show the distribution, by provinces, of prime contracts only. Detailed information as to the geographic distribution of subcontracts is not available but would considerably alter the pattern shown above.

SOURCE: Sessional Paper No. 199, Monday March 10, 1947; mover, Mr. Hazen, M.P.

Table G-III

**FEDERAL GOVERNMENT EXPENDITURES ON WAR PRODUCTION AND RELATED FACILITIES, SEPTEMBER 1939 TO DECEMBER 1945**

Province	Thousands of dollars	Percentage of total	Employment July 1, 1943	Percentage of total
Maritime Provinces.....	24,852	3.5	45,007	5.3
Quebec.....	253,195	35.2	280,389	33.1
Ontario.....	368,850	51.3	397,748	46.9
Prairie Provinces.....	32,984	4.6	42,075	5.0
British Columbia.....	25,683	3.6	82,761	9.8
Not distributed to provinces.....	12,767	1.8	—	—
Canada.....	718,331	100.0	847,980	100.0

SOURCE: Department of Munitions and Supply file.

Table G-IV

**EMPLOYMENT BY PROVINCES, IN FEDERAL CROWN PLANTS, JULY 1, 1943**

Region	Number of Crown plants	Employ- ment in all war plants	Employ- ment in Crown plants	Crown plants to all war plants
Maritimes.....	8	45,007	8,604	16.2
Quebec.....	41	280,389	112,111	31.6
Ontario.....	40	397,748	97,627	19.0
Prairies.....	8	42,075	12,419	21.4
British Columbia.....	8	82,761	10,232	11.3

SOURCE: Department of Munitions and Supply file.

Table G-V

## EMPLOYMENT IN CANADIAN WAR MANUFACTURING PROGRAMMES, BY PROVINCES, AS AT JULY 1, 1943 (a)

	Description	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada (9 provinces)
1.	Shipbuilding.....	18,695	42,629	24,934	743	39,184	126,185
	Shipyards.....	16,567	26,980	10,167	70	32,967	86,751
	Manufacture of parts.....	2,128	15,649	14,767	673	6,217	39,434
2.	Aircraft.....	3,292	38,536	43,746	9,288	9,750	104,612
	Assembly.....	—	19,586	15,700	1,061	6,073	42,420
	Overhaul and repair.....	1,387	2,660	2,600	6,408	1,314	14,369
	Manufacture of parts.....	1,905	16,290	25,446	1,819	2,363	47,823
3.	Automotive equipment.....	22	8,953	64,588	525	39	74,127
	Mechanical transport.....	22	1,500	50,095	313	33	51,963
	Armoured fighting vehicles.....	—	7,453	14,493	212	6	22,164
4.	Guns and small arms.....	1,060	6,530	33,907	2,232	1,092	44,821
	Guns.....	1,060	5,938	13,327	1,983	1,092	23,400
	Small arms.....	—	592	20,580	249	—	21,421
5.	Chemicals, explosives and ammunition.....	908	52,621	40,675	3,554	1,074	98,832
	Small arms ammunition.....	15	23,614	3,310	—	—	26,939
	Ammunition components.....	538	8,144	18,170	618	30	27,500
	Shells.....	516	2,230	5,582	487	—	8,815
	Bombs.....	19	1,939	3,650	129	26	5,763
	Fuses.....	—	1,447	4,358	2	—	5,807
	Cartridge cases.....	3	1,957	4,056	—	4	6,020
	Pyrotechnics.....	—	571	524	—	—	1,095
	Ammunition-filling.....	—	14,080	10,230	—	—	24,310
	Chemicals and explosives.....	355	6,783	8,965	2,936	1,044	20,083
	Explosive chemicals.....	—	4,253	4,250	2,527	42	11,072
	Non-explosive chemicals.....	355	2,530	4,715	409	1,002	9,011
6.	Instruments and communications equipment.....	42	10,434	24,508	498	1,048	36,530
	Instruments.....	42	2,004	14,299	490	997	17,832
	Communications equipment.....	—	8,430	10,209	8	51	18,698

7. General stores.....	5,295	40,543	46,138	11,013	6,862	109,851
Food.....	2,229	5,906	8,582	6,952	5,488	29,157
Textiles.....	761	14,488	10,420	21	33	25,723
Clothing.....	1,209	11,975	13,762	1,942	331	29,219
Footwear and rubber clothing.....	277	4,880	2,832	150	111	8,250
Barrack stores.....	347	1,603	4,689	665	520	7,824
Office supplies.....	—	279	2,504	69	19	2,871
Oil and gasoline.....	460	732	1,690	1,207	332	4,421
Medical and dental supplies.....	12	680	1,659	7	28	2,386
8. Industrial equipment and materials.....	15,243	70,507	104,307	13,224	23,280	226,561
Industrial equipment.....	3,317	23,675	43,366	8,360	2,485	81,203
Agricultural tools and equipment.....	6	76	3,385	51	—	3,518
Industrial tools and equipment.....	210	10,412	18,828	439	932	30,821
Miscellaneous electrical equipment.....	—	1,700	9,145	39	114	10,998
Structural steel.....	293	1,930	3,831	753	399	7,206
Railway rolling stock.....	2,808	9,557	8,177	7,078	1,040	28,660
Materials.....	11,169	43,055	53,757	4,367	20,104	132,452
Basic steel.....	3,928	2,597	18,849	902	477	26,753
Other basic metals.....	—	20,866	13,935	860	4,045	39,706
Aircraft veneer.....	499	595	420	6	1,467	2,987
Pulp and paper.....	1,161	3,376	2,472	22	1,308	8,339
Other lumber.....	4,646	8,378	7,805	1,910	11,539	34,278
Building and other non-metallic basic materials.....	935	7,243	10,276	667	1,268	20,389
Containers.....	757	3,777	7,184	497	691	12,906
9. Government employees (a).....	450	9,636	14,945	998	432	26,461
Total.....	45,007	280,389	397,748	42,075	82,761	847,980

(a) In the Department of Munitions and Supply, the Inspection Board of the United Kingdom and Canada, and the Wartime Prices and Trade Board.

SOURCES: Department of Trade and Commerce; Department of Munitions and Supply, Economics and Statistics Branch.

Table G-VI

**EXPENDITURES ON WAR PRODUCTION AND RELATED FACILITIES BY THE DEPARTMENT OF MUNITIONS AND SUPPLY, BY PROVINCES, CANADA, SEPTEMBER 10, 1939, TO DECEMBER 31, 1945**  
(*thousands of dollars*)

Programme	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Undis- tributed (a)	Total Canada
1. Shipbuilding.....	11,623	15,374	8,039	—	2,684	—	37,720
Naval ship construction.....	1,778	5,096	3,227	—	1,837	—	11,938
Cargo ship construction.....	2,641	7,070	380	—	—	—	10,091
Miscellaneous ship construction.....	2,963	3,162	4,432	—	847	—	11,404
Ship repairs.....	4,241	46	—	—	—	—	4,287
2. Aircraft.....	5,033	32,000	31,070	6,381	8,826	—	83,310
Production.....	25	30,956	28,293	551	7,251	—	67,076
Overhaul and repair.....	5,008	1,044	2,777	5,830	1,575	—	16,234
3. Transportation equipment.....	—	13,202	21,559	54	—	60	34,875
Mechanical transport.....	—	4	12,362	—	—	60	12,426
Armoured fighting vehicles.....	—	13,198	9,197	54	—	—	22,449
4. Ordnance.....	2,682	26,268	92,879	6,013	3,599	—	131,441
Guns.....	2,682	26,205	44,638	6,013	3,599	—	83,137
Small arms.....	—	63	48,241	—	—	—	48,304
5. Ammunition, chemicals and explosives	1,624	152,375	101,370	20,487	7,324	—	283,180
Gun ammunition.....	1,624	15,225	23,224	715	37	—	40,825
Small arms ammunition.....	—	67,765	11,407	—	—	—	79,172
Chemicals and explosives.....	—	69,385	66,739	19,772	7,287	—	163,183
6. Instruments and signals equipment.....	—	1,834	11,425	68	948	—	14,275
7. General stores.....	3,167	12,126	101,918	15	1,934	109	119,269
Raw materials and other basic products.....	2,995	10,566	96,495	9	1,794	—	111,859
Machine tools and gauges.....	41	894	4,381	—	104	—	5,420
Miscellaneous.....	131	666	1,042	6	36	109	1,990
8. Other.....	723	16	556	—	368	12,598	14,261
Total.....	24,852	253,195	368,850	32,984	25,683	12,767	718,331
Percentage distribution.....	3.5	35.2	51.3	4.6	3.6	1.8	100.0

(a) "Undistributed" expenditures represent investments in assets that cannot be assigned to any one locality or province.

SOURCES: Department of Trade and Commerce; Department of Munitions and Supply, Comptroller's Branch and Office of Chief Treasury Officer; United Kingdom Payments Office.

Table G-VII

STATEMENT OF ESTIMATED EXPENDITURE BY PROVINCES, MADE BY THE DEPARTMENT OF NATIONAL  
DEFENCE FOR THE FISCAL YEARS 1950-51, 1951-52, 1952-53 AND 1953-54

	1950-51	1951-52	1952-53	1953-54
Atlantic Provinces.....	\$ 65,798,255	\$ 94,066,779	\$ 137,448,972	\$ 138,204,581
Quebec.....	128,748,310	341,575,277	434,525,619	359,522,407
Ontario.....	200,790,510	428,665,677	654,445,128	571,496,259
Prairie Provinces.....	67,071,728	113,931,338	175,557,290	161,524,642
British Columbia.....	47,075,874	69,762,436	99,665,860	88,411,679
Yukon and Northwest Territories.....	5,246,562	6,320,129	7,990,912	6,958,981
Total.....	\$ 514,731,239	\$ 1,054,321,636	\$ 1,509,633,781	\$ 1,326,118,549
Unallocated.....	\$ 267,900,000	\$ 361,350,000	\$ 377,509,223	\$ 479,796,373

SOURCE: Department of National Defence.

Table G-VIII

**DEPARTMENT OF NATIONAL DEFENCE: PROVINCIAL  
DISTRIBUTION OF CIVILIAN AND MILITARY PAY  
AND ALLOWANCES, FISCAL YEAR 1954-55**

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Atlantic Provinces.....	\$ 83,060,674
Quebec.....	58,355,638
Ontario.....	147,753,314
Prairie Provinces.....	67,631,535
British Columbia.....	42,530,519
Yukon.....	3,927,942
Northwest Territories.....	345,990
Canada.....	403,605,612

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SOURCE: Department of National Defence.

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<sup>1</sup> This is one of a series of three studies on Canadian international economic relations prepared under the direction of S. S. Reisman.

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